

# MASSACHUSETTS WATER RESOURCES AUTHORITY



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## **Fiscal Year 2015 Proposed CURRENT EXPENSE BUDGET**

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**together with the participation of MWRA staff.**



## MASSACHUSETTS WATER RESOURCES AUTHORITY

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Katherine Haynes Dunphy, Chairwoman  
MWRA Advisory Board  
100 First Avenue  
Boston, MA 02129

March 2014

Dear Chairwoman Dunphy:

At its February 12, 2014 meeting, the MWRA Board of Directors voted to transmit the FY15 Proposed Current Expense Budget to the Advisory Board for its review and comment.

The FY15 Proposed Budget recommends a combined assessment increase of 3.6%, which is in line with last year's prediction. This increase is achieved by continuing the practice of targeted debt defeasance for the most challenging out-years and managing both direct and indirect expenses. The FY15 Proposed Budget reflects the benefits of an anticipated \$20 million defeasance in FY14 with targeted savings in FY17. The residual savings in FY15 from the proposed defeasance and lower direct and indirect expenses have allowed for a reduction to the projected use of reserves in FY15, preserving those funds for future use.

Total expenses are \$683.3 million, a \$24.9 million or 3.8% increase over the FY14 Budget. Capital financing costs at \$417.3 million remain the largest portion of the budget, representing 61.1% of the total expenses. FY15 marks the second consecutive year where principal payments will exceed projected borrowings, continuing to reduce MWRA's debt burden. Operating expenses are \$266.0 million of which \$218.2 million is for direct expenses and \$47.8 million is for indirect expenses.

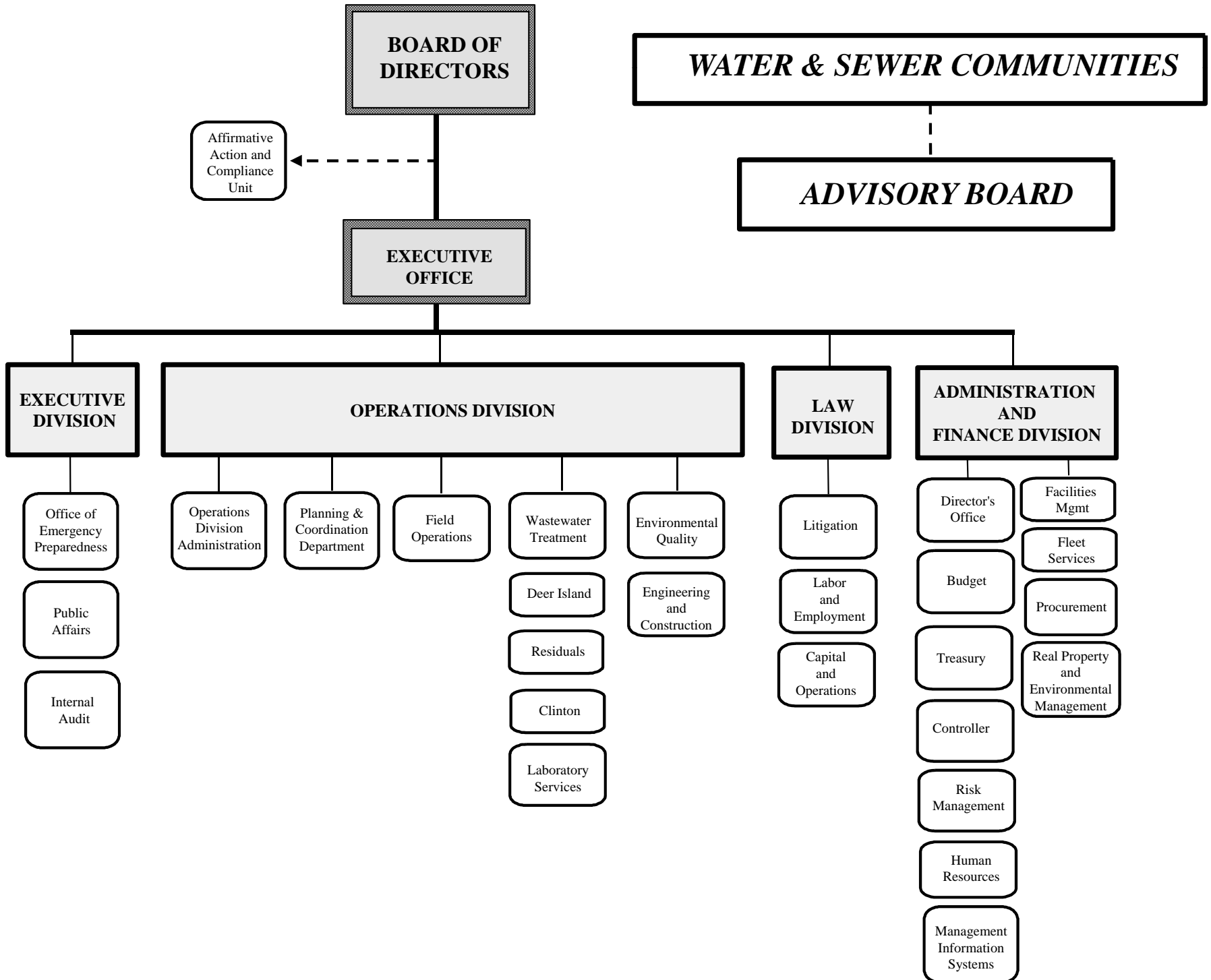
MWRA continues to pursue a rates management strategy which promotes predictable and reasonable assessment increases. However, many challenges remain especially related to the Other Post Employment Benefits (OPEB). MWRA is planning to continue the current strategy of aggressively paying down the pension liability, and upon reaching full funding, move to address the OPEB obligation.

Additional budget information and a copy of this document are available online at [www.mwra.com](http://www.mwra.com). Questions or comments on this document should be directed to the MWRA Budget Department.

We look forward to working with the Advisory Board members and staff during your review of the FY15 Proposed Current Expense Budget. Thank you for your continued support and recommendations.

Sincerely,

Frederick A. Laskey  
Executive Director



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Operations Division Administration

Planning & Coordination Department

Field Operations

Wastewater Treatment

Environmental Quality

Deer Island

Residuals

Clinton

Laboratory Services

Engineering and Construction

Litigation

Labor and Employment

Capital and Operations

Director's Office

Budget

Treasury

Controller

Risk Management

Human Resources

Management Information Systems

Facilities Mgmt

Fleet Services

Procurement

Real Property and Environmental Management

# TABLE OF CONTENTS

## **SECTION I: EXECUTIVE SUMMARY**

MWRA Mission	I-1
Community Profiles and Assessments	I-18
Revenue and Expenditure Trends	I-20
FY15 Proposed Capital Improvement Program	I-22
MWRA Organization and History	I-31
Statement of MWRA Financial Position	I-32

## **SECTION II: EXECUTIVE DIVISION**

Executive Office Budget Summary	II-1
Office of Emergency Preparedness	II-3
Affirmative Action and Compliance Unit	II-5
Internal Audit	II-7
Public Affairs	II-8

## **SECTION III: OPERATIONS DIVISION**

Operations Division Budget Summary	III-1
Operations Administration	III-8
Wastewater Treatment	III-9
Deer Island	III-10
Residuals	III-13
Clinton	III-15
Field Operations	III-17
Laboratory Services	III-20
Environmental Quality	III-22
Engineering and Construction	III-23
Planning and Coordination Department	III-25

## **SECTION IV: LAW DIVISION**

Law Division Budget Summary	IV-1
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## **SECTION V: ADMINISTRATION & FINANCE DIVISION**

Administration & Finance (A&F) Division Budget Summary	V-1
A&F Division Director's Office	V-4
Rates & Budget	V-5
Treasury	V-7
Controller	V-8
Risk Management	V-9

**SECTION V: ADMINISTRATION & FINANCE DIVISION CONT'D.**

Facilities Management	V-10
Fleet Services	V-12
Human Resources	V-14
Management Information Systems	V-17
Procurement	V-24
Real Property and Environmental Management	V-27

**APPENDICES**

- A. Direct Expense Budget Line Items Descriptions
- B. Budget Process and Timetable
- C. Budget and Assessment Policies and Procedures
- D. MWRA Planning Estimates FY2015 – FY2024
- E. Glossary of Financial and Operating Terms
- F. Capital Financing by Debt Series



# Executive Summary

# Executive Summary

## MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing the MWRA.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (the Orange and Yellow Notebooks) capture a variety of parameters regarding performance of each major functional area, on a monthly and quarterly basis.

## Overview

Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its FY15 Proposed Budget to the Advisory Board in February. The Advisory Board then has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. In June, MWRA's Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporates Board decisions from the hearings and presents a final budget for approval in June.

## FY15 Proposed Budget Summary

The FY15 Proposed Budget recommends a combined assessment increase of 3.6%.

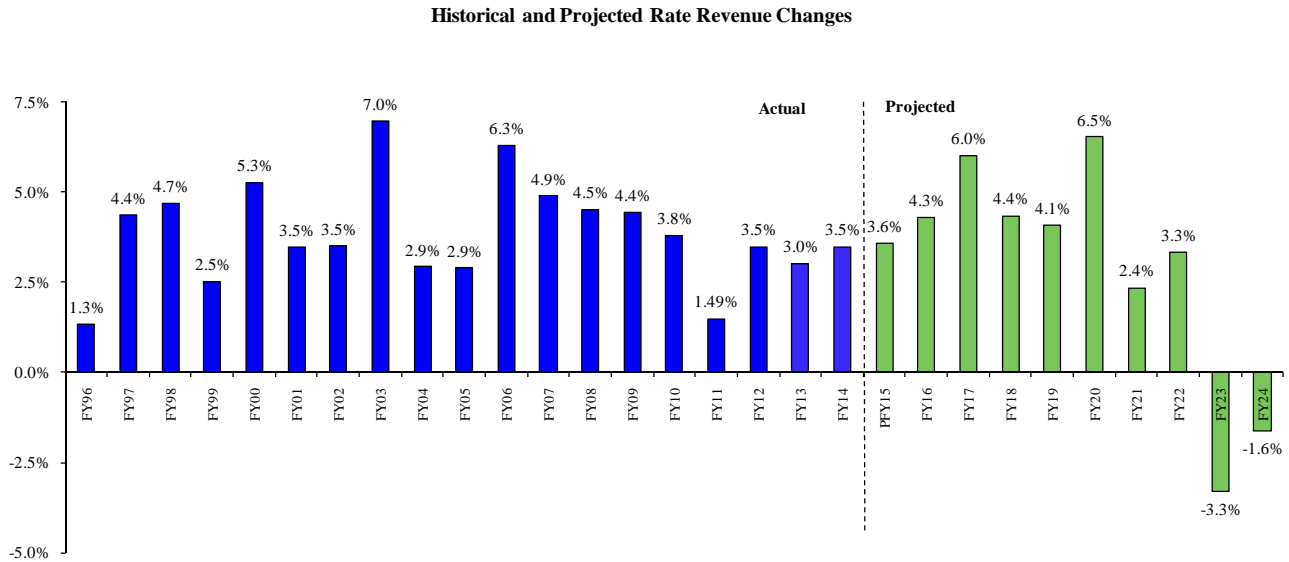
Measures taken by the Authority to achieve the 3.6% rate increase include:

- Limiting Direct and Indirect Expenses increase to 1.8%;
- Continued practice of targeted defeasance;
- Level funding headcount at 1,175 positions;
- Use of \$7.9 million in Rate Stabilization funds;
- Use of \$1.3 million in Bond Redemption funds, \$2.8 million lower than originally projected;
- Over \$791,000 of debt service savings in FY15 from a proposed FY14 \$20 million defeasance targeting FY17; reducing FY17 assessment increase from projected 8.5% to 6.0%; and
- Assumed No Debt Service Assistance.



As MWRA continues to pursue a rate management strategy which promotes predictable and reasonable assessments, many challenges remain, mostly related to Other Post Employment Benefits (OPEB) and Pension related liabilities.

The graph below represents historical and projected assessment changes based on the FY15 Proposed Budget.



Total expenses of \$682.3 million, are \$24.9 million or 3.8% above the FY14 Budget. Capital financing costs remain the largest component of the CEB and account for more than 61.1% of total expenses. No Debt Service Assistance (DSA) is assumed for FY15.

Total expenses include \$417.3 million for capital financing costs after offsets and \$266.0 million for operating expenses, of which \$218.2 million is for Direct Expenses and \$47.8 million is for Indirect Expenses. Of the \$24.9 million overall increase, \$20.1 million is for Capital Financing, \$3.8 million is for Direct Expenses, and \$942,000 is for Indirect Expenses.

The \$20.1 million or 5.1% increase in capital financing expenses after offsets reflects debt service associated with the projected issuances of \$100.0 million in new money in June of 2014 and \$100.0 million in May of 2015 as well as new State Revolving Fund (SRF) debt of \$53.8 million in the Spring of 2014 and \$42.5 million in FY15. Offsetting these issuances, are the impacts of the projected FY14 defeasance of \$20.0 million, which is estimated to yield savings of approximately \$792,000 in FY15, \$792,000 in FY16, and \$18.3 million in FY17.

The \$4.8 million or 1.8% increase in operating expenses from the FY14 Budget is mainly due to increased wages and salaries of \$1.9 million for projected cost of living adjustments (COLAs), higher energy costs of \$590,000, higher addition to reserves as required of \$492,000, higher healthcare costs of \$476,000, and a variety of other items totaling \$1.3 million.

On the revenue side, the FY15 Proposed Rate Revenue Requirement is \$651.2, an increase of \$22.4 million or 3.6% as compared to the FY14 Budget. FY15 non-rate revenue totals \$32.1 million, an increase of \$2.4 million or 8.1% more than the FY14 Budget mainly due to the inclusion of \$4.4

million more in Rate Stabilization funding offset by a decrease of \$1.8 million in investment earnings due to lower investment income projections based on current trends. The FY15 non-rate revenue budget of \$32.1 million includes \$14.5 million in other user charges and other revenue, \$9.8 million for investment income, and \$7.9 million in Rate Stabilization.

Table I-1 shows MWRA's FY15 Proposed Budget for revenue and expenses compared with the FY14 Budget and FY13 Actual. Changes from FY14 to FY15 are described in the Revenue and Expense section of the Executive Summary.

**Table I-1**

TOTAL MWRA	FY13 Actual	FY14 Approved Budget	FY15 Proposed	Change FY15 Proposed vs FY14 Approved Budget	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 90,658,806	\$ 94,874,284	\$ 96,784,070	\$ 1,909,786	2.0%
OVERTIME	3,542,871	3,580,025	3,620,600	40,575	1.1%
FRINGE BENEFITS	17,536,480	18,063,825	18,539,351	475,526	2.6%
WORKERS' COMPENSATION	2,114,701	2,000,000	2,200,000	200,000	10.0%
CHEMICALS	10,139,257	10,671,225	10,667,110	(4,115)	0.0%
ENERGY AND UTILITIES	23,057,581	22,760,588	23,350,688	590,100	2.6%
MAINTENANCE	26,956,073	27,761,580	28,036,396	274,816	1.0%
TRAINING AND MEETINGS	320,596	330,917	361,019	30,102	9.1%
PROFESSIONAL SERVICES	5,002,664	6,083,402	6,143,938	60,536	1.0%
OTHER MATERIALS	6,955,029	5,969,470	5,886,229	(83,241)	-1.4%
OTHER SERVICES	22,323,327	22,278,699	22,631,589	352,890	1.6%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 208,607,384</b>	<b>\$ 214,374,017</b>	<b>\$ 218,220,990</b>	<b>\$ 3,846,976</b>	<b>1.8%</b>
INSURANCE	\$ 2,220,704	\$ 2,093,618	\$ 2,128,155	\$ 34,537	1.6%
WATERSHED/PILOT	26,004,694	27,214,833	27,541,836	327,003	1.2%
HEEC PAYMENT	3,492,064	3,346,854	3,198,174	(148,680)	-4.4%
MITIGATION	1,517,791	1,566,797	1,605,967	39,170	2.5%
ADDITIONS TO RESERVES *	1,398,329	169,304	661,661	492,357	290.8%
RETIREMENT FUND	10,490,247	7,455,103	7,808,155	353,052	4.7%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT		4,976,411	4,821,320	(155,091)	-3.1%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 45,123,829</b>	<b>\$ 46,822,920</b>	<b>\$ 47,765,268</b>	<b>\$ 942,348</b>	<b>2.0%</b>
DEBT SERVICE (before offsets)	\$ 380,244,437	\$ 397,226,267	\$ 418,605,411	\$ 21,379,144	5.4%
VARIABLE RATE DEBT/OTHER DEFEASANCE ACCOUNT		-	-	-	
BOND REDEMPTION			(1,300,000)	(1,300,000)	
DEBT SERVICE ASSISTANCE	-	-	-	-	
<b>TOTAL DEBT SERVICE</b>	<b>\$ 380,244,437</b>	<b>\$ 397,226,267</b>	<b>\$ 417,305,411</b>	<b>\$ 20,079,144</b>	<b>5.1%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 633,975,650</b>	<b>\$ 658,423,205</b>	<b>\$ 683,291,669</b>	<b>\$ 24,868,463</b>	<b>3.8%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 607,512,000	\$ 628,721,002	\$ 651,169,443	\$ 22,448,441	3.6%
OTHER USER CHARGES	7,707,031	8,127,379	8,254,404	127,025	1.6%
OTHER REVENUE	8,173,785	6,444,291	6,196,586	(247,705)	-3.8%
RATE STABILIZATION	-	3,500,000	7,861,672	4,361,672	124.6%
INVESTMENT INCOME	13,590,492	11,630,534	9,809,564	(1,820,970)	-15.7%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 636,983,311</b>	<b>\$ 658,423,205</b>	<b>\$ 683,291,669</b>	<b>\$ 24,868,463</b>	<b>3.8%</b>

**FY15 Goals:**

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Continue the implementation of long-term strategies to ensure reasonable rate increases to MWRA's communities.
- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and the National Pollutant Discharge Elimination System (NPDES) permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.

**FY15 Initiatives:**

- Implement and start to optimize new ultraviolet disinfection treatment process for MWRA's potable water system at the Carroll Water Treatment Plant and Quabbin Disinfection Facility.
- Plan for implementation of requirements of the new National Pollutant Discharge Elimination System (NPDES) Permits for DITP (assume new permit is issued as of January 2015) and Clinton Wastewater Treatment Plant (assume new permit in effect for all of FY15).
- Plan for the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits and commence the work after the Environmental Protection Agency (EPA) issues the new NPDES permits.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system, and pursue grant-funding and cost sharing arrangements with utilities.
- Self-generate ~28% of the Deer Island Treatment Plant's (DITP) required power through optimization of power generation assets, including the wind turbines and the Steam Turbine Generation (STG) back pressure system.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.

- Evaluate pilot program to introduce commercial food waste co-digestion project at Deer Island Treatment Plant.
- MWRA's highest legislative priority continues to focus on the need for a more robust "Commonwealth Rate Relief Package" to help offset anticipated rate increases over the next several years.
- In January 2013, Senate President Therese Murray committed to address the ongoing critical need for financial assistance for drinking and wastewater infrastructure. SB2013 (originally SB1880) is an attempt to address these issues. Provisions of the bill include: (subject to appropriation) a 1:1 match to help interested communities pay the MWRA entrance fee; (subject to appropriation) a reimbursement of up to \$13.8M of I/I interest free grants and loans provided by MWRA; and additional financial assistance, including principal forgiveness, for projects connecting a local or regional governmental unit to an MWRA facility.

**FY14 Mid-Year Accomplishments:**

- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Procured multi-year electricity supply contracts for the majority of MWRA facilities.
- Received revenue for energy generated at numerous facilities including the following: hydro-electric \$509,000 from Oakdale Station, \$124,000 from Cosgrove Station, and \$19,000 from the Loring Road Pump Station; wind of \$149,000 from Charlestown Pump Station; and solar of \$56,000 from Carroll Water Treatment Plant.
- Continued to leverage MWRA's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$1.4 million in revenue for the first six months of FY14. Deer Island also self-generated ~22% of the plant's total required power during that period.
- Competitively bid CY13 Renewable Energy Portfolio Standard certificates which resulted in FY14 revenues of \$1,122,595 from forward marketing of CY13 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates. In addition, received FY14 revenues of \$10,150 for (Class II) RPS certificates.
- Continued to work with DITP, Field Operations and utility companies to establish energy conservation programs at DITP and FOD facilities, using the Green Communities Act, the utilities' municipal programs, and other programs.
- The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel which has lead to the MWRA being rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC).
- Submitted the FY15 Proposed Capital Improvement Program (CIP) Budget to the Advisory Board with the same projected Cap level as established in FY14.
- Awarded the following major contracts in FY14 to date: Harbor and Outfall Monitoring; DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; DITP Pilot Program for Co-Digestion; Webster Avenue Pipe Replacement Design; Hatchery Pipeline and Hydro-electric Design; Pilot Program for Organic Digestion at DITP; Security Guard Services, and Dam Safety Consulting Services.

- Advertised or received bids/proposals/statements for the following: Rehabilitation of Anaerobic digesters at Clinton Treatment Plant; Section 111 Southern Extra High Redundancy Pipeline Design; DITP HVAC Replacement Design; Financial Advisor Services; Dam EAP Planning; and DITP Valve and Piping Replacement.
- Processed 4,892 purchase orders in Q1 and Q2 of FY14 for a total of \$23,042,456.
- Processed 100 average tons per day of sludge at the Pelletization Plant and disposed of 2,832 tons of grit and screenings through a contracted vendor.
- Identified \$323,000 in savings related to: management advisory services, consultant audits, construction labor burden reviews, the early termination of two janitorial services contracts, and a Charlestown Navy Yard lease operating cost adjustment.
- Continued to coordinate the periodic sampling requirements and quarterly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental.

## SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the FY15 Proposed Budget.

**Table I-2**

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$8.3	1.2%
Other Revenue	6.2	0.9%
Investment Income	9.8	1.4%
Rate Revenue	651.2	95.3%
Rate Stabilization	7.9	1.2%
<b>TOTAL REVENUE</b>	<b>\$683.3</b>	<b>100.0%</b>
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$684.6	
Less:		
Debt Service Assistance	0.0	
Bond Redemption	(1.3)	
Sub-Total Net Expenses	683.3	
Capital Financing	418.6	61.1%
Direct Expenses	218.2	31.9%
Indirect Expenses	47.8	7.0%
<b>TOTAL EXPENSES</b>	<b>\$684.6</b>	<b>100.0%</b>
<b>OFFSETS</b>	<b>(1.3)</b>	
<b>TOTAL EXPENSES Less Offsets</b>	<b>\$683.3</b>	

\*May not add up due to rounding

### Revenue

MWRA is required by its enabling act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserve levels.

In the FY15 Proposed Budget, 95.3% of revenue is derived from rate revenue. The remaining 4.7% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

## **Rate Revenue**

Under the FY15 Proposed Budget, the MWRA will raise \$651.2 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$651.2 million, \$440.4 million will fund the sewerage system, an increase of 3.5% as compared to FY14; and \$210.8 million will fund the water system, an increase of 3.7% as compared to FY14.

## **Non-Rate Revenue**

### **Other User Charges**

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the FY15 Proposed Budget total \$8.3 million, an increase of \$127,000 or 1.6% from the FY14 Budget and includes \$4.7 million for Chicopee Valley Aqueduct (CVA) communities, \$1.6 million for Deer Island water usage, \$651,000 in entrance fees paid by Stoughton and Wilmington, \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses, \$516,000 in water revenue, and \$353,000 in sewer revenue to contract communities.

### **Other Revenue**

Other Revenue is budgeted at \$6.2 million, a decrease of \$248,000 or 3.8% from the FY14 Budget mainly for lower renewable portfolio sales due to lower pricing.

Other Revenue includes \$2.1 million in permit fees and penalties, in addition to \$3.0 million for the sale of Renewable Portfolio Credits, sale of generated power, and revenues for demand response programs.

#### *Permit Fees and Penalties*

The FY15 Proposed Budget includes \$2.1 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

#### *Miscellaneous Revenue*

The FY15 Proposed Budget includes \$4.1 million in miscellaneous revenues of which \$3.0 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits, participation in the demand response program, and the sale of power including hydro, wind, and solar generated at various MWRA's facilities as well as a large number of miscellaneous revenue items.

### **Investment Income**

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY15 Proposed Budget includes \$9.8 million in investment income, a decrease of \$1.8 million or 15.7% from the FY14 Budget due to having fewer funds invested long-term due to liquidity needs for the reserve release based on the amendments to the Bond Indenture anticipated for FY16. The FY15 short-term interest rate is 0.20%, unchanged from the FY14 Budget.

## ***Non-Recurring Revenue***

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the Rate Revenue Requirement in any subsequent year. Consistent with the requirements of its enabling act and its general bond resolution, MWRA treats transfers from the rate stabilization reserve as revenue in that fiscal year. For the FY15 Proposed Budget, \$7.9 million in Rate Stabilization fund usage is projected.

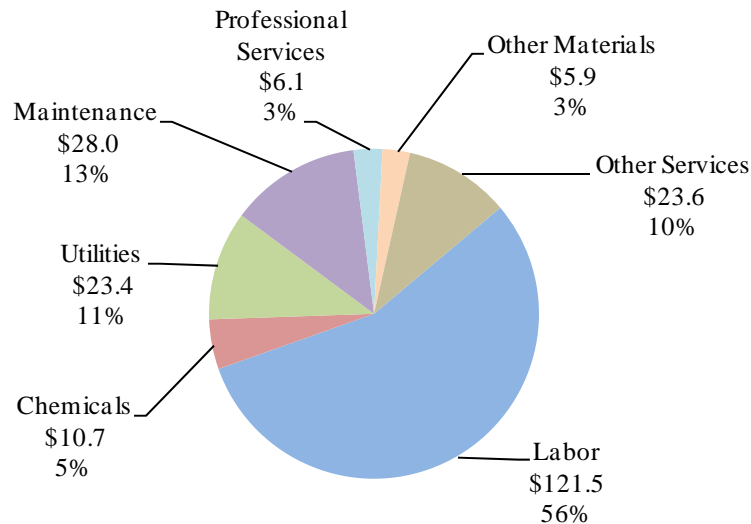
## **Direct Program Expenses**

The FY15 Proposed Direct Expense Budget is \$218.2 million, \$3.8 million or 1.8% above the FY14 Budget. The principal drivers for the increase are wages and salaries due to projected cost of living adjustments (COLAs), energy costs, fringe benefits for projected healthcare cost increases, lease costs, and sludge expense reflecting higher contract indices. MWRA continues to manage direct expenses through implementing cost improvement initiatives, such as cross-training staff, competitive purchase of energy and chemicals, lease space reductions, and increased self-generation of electricity.

## **Line Item Budget Summary**

Figure I-1 combines related direct expense line items into general cost categories and shows that labor costs (wages and salaries, overtime, fringe benefits, workers' compensation and training and meetings) are the largest component of the direct expense budget 56%, followed then by maintenance 13%, utilities 11% and other services 10%.

**FIGURE I-1**  
**Direct Expenses by Category**  
**(in millions)**



**Wages and Salaries** – The proposed budget includes \$96.8 million for Wages and Salaries as compared to \$94.9 million in the FY14 Budget, an increase of \$1.9 million or 2.0%. Regular Pay, which is 98.2% of total Wages and Salaries, increased \$2.0 million mostly for projected COLA increases offset by lower mix of salaries. The proposed budget funds 1,175 positions, level with the FY14 Budget. As always, new hires and backfills of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management.

**Overtime** – The proposed budget includes \$3.6 million for Overtime which is level funded from the FY14 Budget. The FY15 Proposed Budget assumes overtime will be limited to coverage, emergencies, and critical maintenance projects.

**Fringe Benefits** – The proposed budget includes \$18.5 million for Fringe Benefits, an increase of \$476,000 or 2.6% from the FY14 Budget. Health Insurance premiums total \$16.0 million, an increase of \$475,000 or 3.0% from the FY14 Budget largely due to anticipated cost increases.

**Workers' Compensation** – The proposed Workers' Compensation budget of \$2.2 million is \$200,000 or 10.0% higher than the FY14 Budget and is based on a three-year average of actual spending.

**Chemicals** – The proposed budget includes \$10.7 million for Chemicals, which is primarily level funded with the FY14 Budget. The FY15 Budget includes \$647,000 for six months of funding for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit which is projected to have more stringent requirements for enterococcus treatment compliance. This increase is offset by lower dosing requirement for hydroflousilicic acid due to changing regulations and lower pricing for sodium hypochlorite as a result of favorable bids.

**Utilities** – The proposed budget includes \$23.3 million for Utilities, which is an increase of \$590,000 or 2.6% from the FY14 Budget mainly for increased unit pricing for Electricity of \$426,000 and increased volume of Diesel Fuel of \$188,000. The budget assumes funding of \$16.7 million for Electricity, \$3.8 million for Diesel Fuel, \$2.1 million for Water, and \$526,000 for Natural Gas. The FY15 Proposed Budget energy and utilities budget reflects the most recent pricing outlook based on energy futures and the latest bids for contracts. Additionally, the FY15 Proposed Budget incorporates self-generation at Deer Island and new green energy initiatives, along with efficiency improvements in Field Operations.

**Maintenance** – The proposed budget includes \$28.0 million for Maintenance projects, an increase of \$275,000 or 1.0% from the FY14 budget, which is in line with the FY13 actual spending and FY14 projected levels.

**Training and Meetings** – The proposed budget includes \$361,000 for Training and Meetings, an increase of \$30,000 or 9.1 % from the FY14 Budget.

**Professional Services** – The proposed budget includes \$6.1 million for Professional Services an increase of \$61,000 or 1.0% from the FY14 Budget. The budget reflects funding for Security of \$1.7 million, Regulatory Monitoring of \$1.5 million, and Other Professional Services funding of \$1.4 million to support items such as the professional staff development and services to locate utility lines for construction projects.



**Other Materials** – The proposed budget includes \$5.9 million for Other Materials, a decrease of \$83,000 or 1.4% from the FY14 Budget. The budget includes funding of \$1.7 million for Vehicle Purchases, \$1.1 million for Vehicle Expenses mostly for gasoline purchases, \$803,000 for Lab and Testing Supplies, \$499,000 for Computer Hardware needs, and \$398,000 for Equipment/Furniture.

**Other Services** – The proposed budget includes \$22.6 million for Other Services, an increase of \$353,000 or 1.6% from the FY14 Budget. The budget includes funding of \$14.0 million for Sludge Pelletization, \$3.5 million for Space/Lease Rentals and related expenses for the CNY and Chelsea facilities, \$1.4 million for Voice and Data costs, and \$1.2 million for Other Services. The largest increase is for Space/Lease Rentals of \$195,000 for contractual increases and Sludge Pelletization of \$164,000 due to increases in inflation indices.

**Functional Area Budget Summary**

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the FY15 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

**FIGURE I-2  
Direct Expenses by Functional Area**

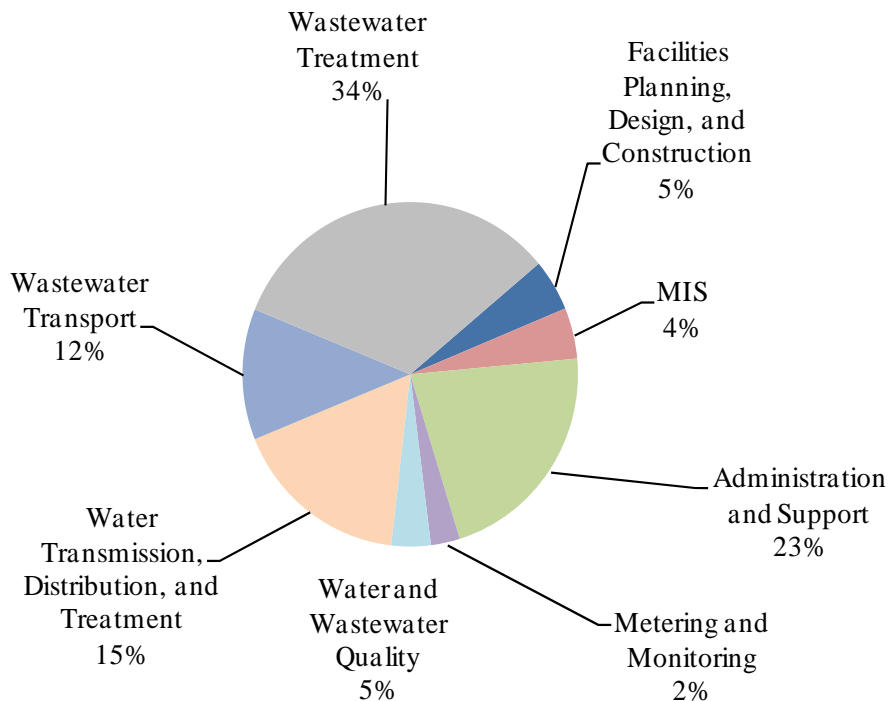
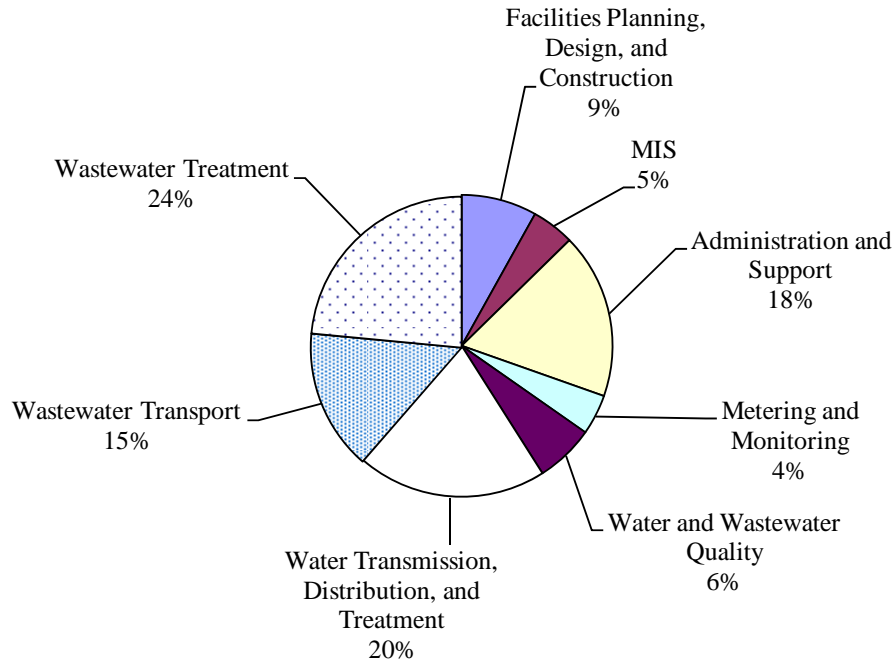


Figure I-3 below illustrates staffing by Functional Area and shows the breakdown of the 1,161 filled positions as of December, 2013. Of the 1,161 filled positions, 59% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for the remaining 10% of staff.

**FIGURE I-3  
Staffing by Functional Area**



**Indirect Expenses**

Indirect Expenses for FY15 total \$47.8 million, an increase of \$942,000 or 2.0% more than the FY14 Budget. Below are the highlights of major changes:

**Insurance**

MWRA purchases property and casualty insurance from external insurance carriers with a self-insured retention of \$2.5 million dollars and Worker’s Compensation Excess insurance with a self-insured retention of \$500,000 per claim. The FY15 Proposed Budget includes \$2.1 million for Insurance, an increase of \$35,000 or 1.6% above the FY14 Budget. The FY15 Proposed Budget was based on actual average spending for the past five years, FY09-13. The budget includes \$1.8 million for premiums and fees and \$323,000 for the projected cost of claims made against the self-insured portion of MWRA coverage. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. The Insurance Reserve Fund is currently funded at \$14.0 million which was within the acceptable range as indentified in the recent insurance consultant review.

## **Watershed Reimbursement/PILOT**

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: Payment in Lieu of Taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of Water Supply Protection, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY15 Proposed Budget includes \$27.5 million for the Division of Water Supply Protection (formerly MDC Division of Watershed Management), an increase of \$327,000 or 1.2% over the FY14 Budget. The budget is comprised of \$13.8 million for reimbursement of operating expenses, \$8.1 million for Payment in Lieu of Taxes, and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth.

## **Harbor Electric Energy Company (HEEC)**

The FY15 Proposed Budget includes \$3.2 million for the Harbor Energy Electric Company (HEEC), a decrease of \$149,000 or 4.4% from the FY14 Budget. This funding is for the repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.

## **Mitigation**

MWRA disburses mitigation funds to communities affected by MWRA projects or facilities pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include relieving the direct impacts of construction, meeting environmental and regulatory requirements, long-term operating agreements, or community compensation for impacts over and above those addressed by other mitigation. In rare situations, where the extent and duration of the impact of a project or facility on a community is such that restoring the area to its pre-project state is insufficient to relieve the stress of MWRA's presence during the project, MWRA funds or contributes to improvements to affected areas.

Mitigation expenses are funded in the capital budget and in the current expense budget. The FY15 Proposed Budget includes \$1.6 million in community compensation for the City of Quincy and the Town of Winthrop.

## **Retirement System Contribution**

The FY15 Proposed Budget includes \$7.8 million for the Retirement Fund, an increase of \$353,000 or 4.7% over the FY14 contribution. The \$7.8 million represents the minimum required contribution based on the most recent actuarial evaluation of January 1, 2013.

## **GASB 45 – Accounting and Reporting by Employers for Postemployment Benefits Other than Pensions**

The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a strategy to aggressively pay down our pension liability and upon reaching full funding, move to address the OPEB obligation. This strategy was employed in FY08-14 (although temporarily halted in FY11 to achieve a 1.5% rate increase). In continuation of the

Authority's long-term commitment to address its liabilities, \$4.8 million is included in OPEB/Additional Pension Fund deposit in the FY15 Proposed Budget

### Operating Reserves

Funding for the Operating Reserve for FY15 is \$662,000, an increase of \$492,000 as compared with the FY14 Budget. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY15 Proposed Budget, the required balance is \$39.6 million versus the \$39.0 million required in FY14.

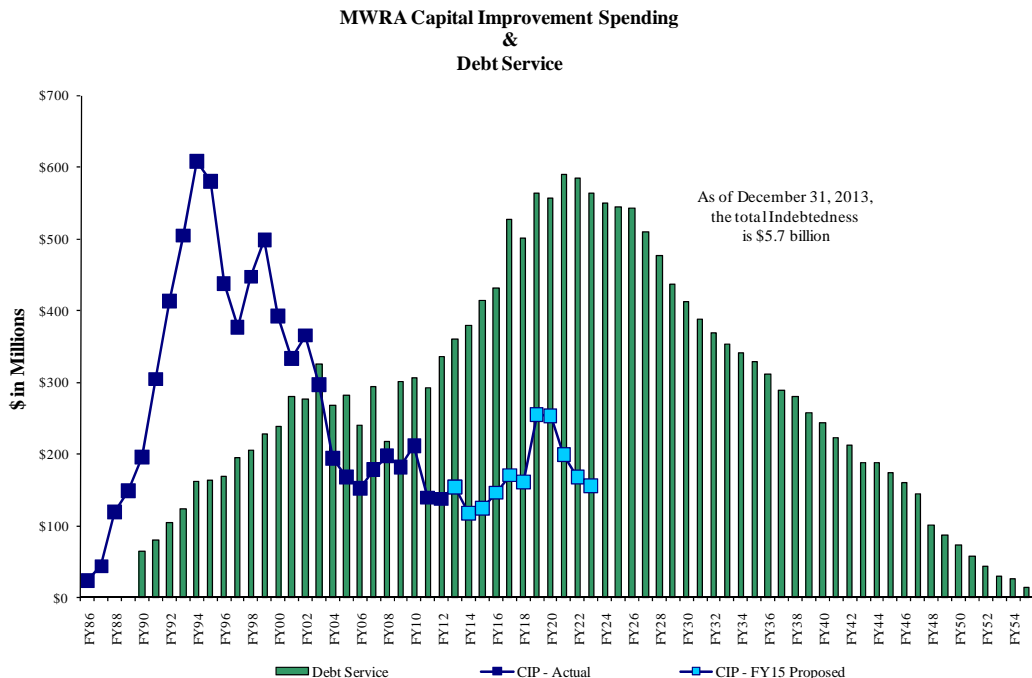
### Capital Financing

#### Outstanding Debt and Debt Management

The \$7.8 billion spent on MWRA's modernization efforts to date, has relied heavily on debt financing. Total debt as of December 31, 2013 was \$5.7 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody's, Standard & Poor, and Fitch, respectively.

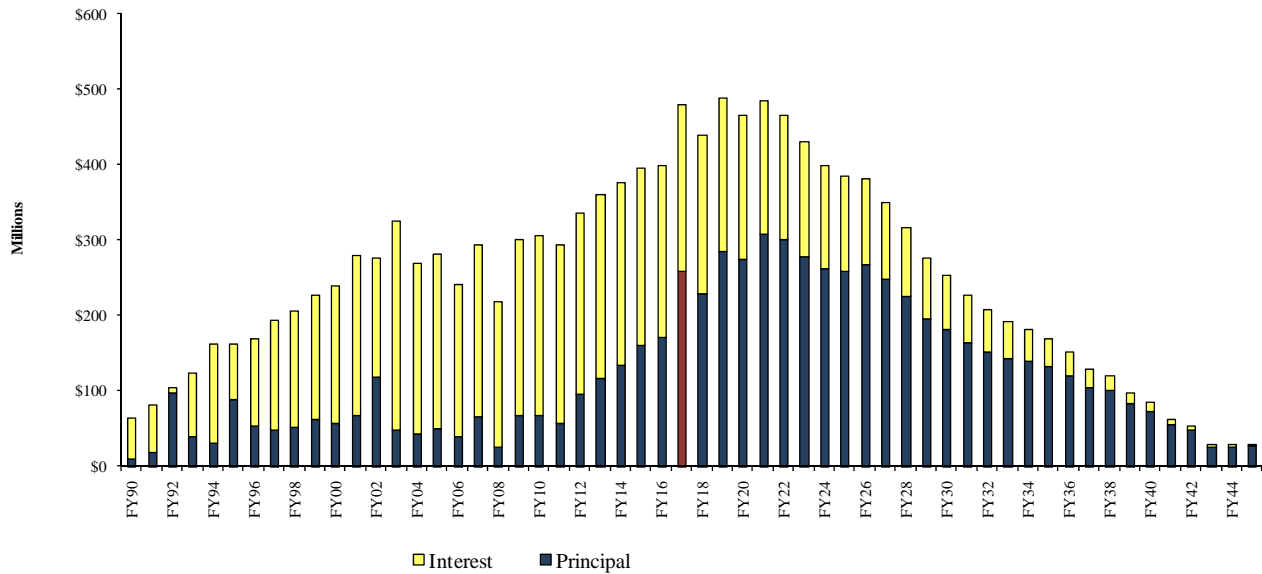
The following graph was updated with the FY15 Proposed CIP spending and debt service projections to illustrate the relationship between the MWRA's CIP and debt service.

Over the past 25 years, MWRA has been focused on construction of new water and sewer facilities, many of which had been neglected for years, to bring the system into regulatory compliance. These efforts relied heavily on debt financing. Going forward, the majority of capital spending will be geared towards asset protection and water redundancy initiatives. As indicated above, as of December 31, 2013 MWRA's total debt was \$5.7 billion which results in significant increases in debt service obligations in the upcoming years. The Authority's debt service obligation as a percent of total expenses has increased from 36% in 1990 to over 61% in the FY15 Proposed Budget, thus continuing to be the largest challenge for the Authority to manage assessments in future years.



It is important to note that this is the beginning of a new era for MWRA in that for the first time, the Authority will be reducing its total bonded indebtedness by paying off more principal on debt than the annual projected borrowings.

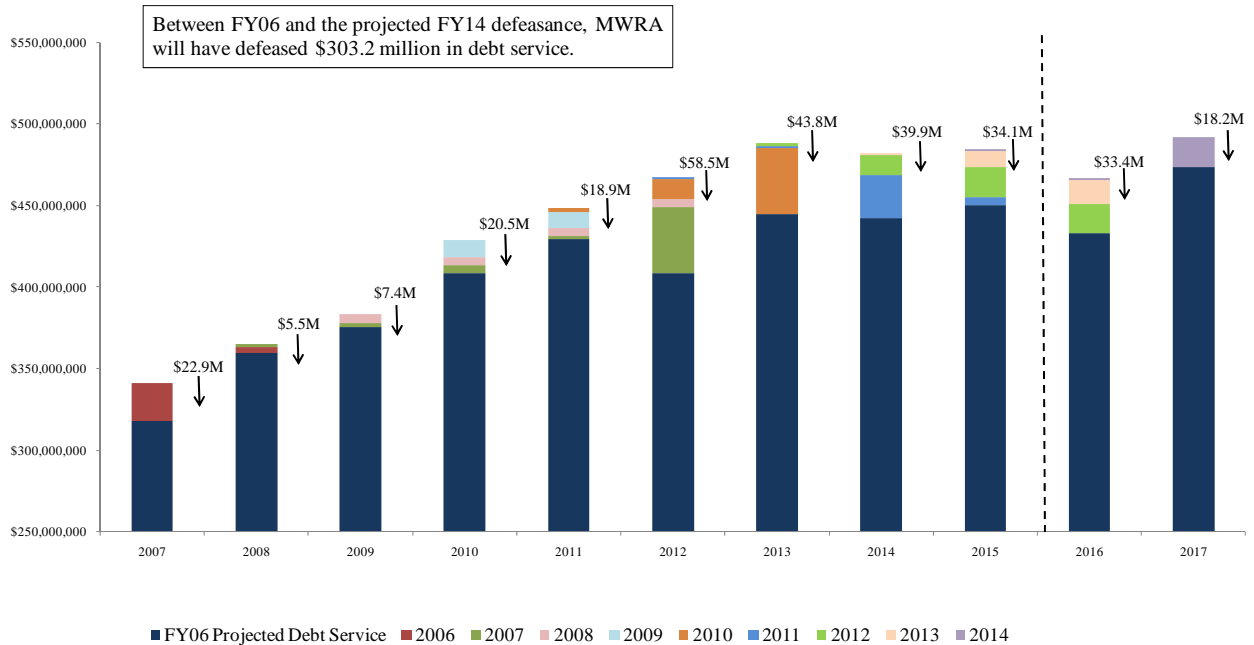
**MWRA Principal and Interest  
Payment History and Projections**



MWRA continues to actively manage its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. The MWRA also uses Tax-Exempt Commercial Paper to minimize the financing cost of construction in process.

As shown on the following page, since 2006 the Authority has used defeasances to reduce future year’s debt service requirements by \$303.2 million.

## Impact of Defeasances FY06 - FY14



The FY15 Proposed capital financing costs total \$417.3 million and remain the largest portion of the MWRA’s budget, accounting for 61.1% of total expenses.

The FY15 Proposed Budget includes a targeted defeasance which will reduce debt service by approximately \$792,000 in FY15, \$792,000 in FY16, and \$18.3 million in FY17 and also includes the use of \$1.3 million in Bond Redemption funds to reduce total debt service. No Debt Service Assistance (DSA) has been included in the FY15 Proposed Budget.

The FY15 Proposed Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY14. The Authority’s variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement or Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low.

The FY15 Proposed capital financing costs after offsets increased by \$20.1 million or 5.1% compared to the FY14 Budget. This increase in the MWRA’s debt service is the result of the new money issued in FY14 and projected FY15 issuances partially offset by the impact of the projected defeasance as detailed above. The FY15 Proposed capital financing budget includes the following:

- \$221.3 million in principal and interest payments on MWRA’s senior fixed rate bonds. This amount includes \$6.5 million to support issuances of \$100 million in June 2014 and \$1.8 million to support issuances of \$100 million of new money in May 2015. Also includes a reduction of \$791,550 for the effect of the planned FY14 defeasance;
- \$99.7 million in principal and interest payments on subordinate bonds;

- \$78.5 million in principal and interest payments on SRF loans. This amount includes \$6.5 million to support issuances of \$53.8 million in Spring 2014 and \$42.5 million in 2015;
- \$10.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$4.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program;
- \$3.2 million for the Chelsea Lease; and
- \$1.6 million for FY15 additional CORE deposit. The CORE fund is 10% of the Senior Debt Service for the fiscal year per the Bond Resolution.

Table I-3 on the following page provides detail on the FY15 Proposed Budget capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Current and future borrowings increasingly support improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

<b>TABLE I-3</b>				
<b>FY15 Proposed Current Expense Budget - Capital Financing Detail (as of 12/31/13)</b>				
<b>\$ in Millions</b>				
	<b>Amount Outstanding</b>	<b>Total FY15 Capital Costs</b>	<b>Sewer</b>	<b>Water</b>
Total SRF <sup>1</sup> Debt	\$1,053.5	\$78.5	\$62.4	\$16.1
Total Senior Debt	\$3,501.7	221.3	129.6	91.8
Total Subordinate Debt	\$1,018.7	99.7	81.2	18.5
<b>Total SRF and Debt Service<sup>2</sup></b>	<b>\$5,573.9</b>	<b>\$399.5</b>	<b>\$273.1</b>	<b>\$126.4</b>
Water Pipeline Commercial Paper	144.0	4.1	0.0	4.1
Current Revenue/Capital <sup>3</sup>		10.2	9.3	0.9
Capital Lease		3.2	2.0	1.3
CORE Fund Deposit		1.6	0.1	1.4
	<b>144.0</b>	<b>\$19.1</b>	<b>\$11.4</b>	<b>\$7.7</b>
<b>Total Capital Financing (before Debt Service Offsets)</b>	<b>5,717.9</b>	<b>\$418.6</b>	<b>\$284.5</b>	<b>\$134.1</b>
Debt Service Offsets:				
Bond Redemption		1.3	0.0	1.3
<b>Total Capital Financing</b>	<b>5,717.9</b>	<b>\$417.3</b>	<b>\$284.5</b>	<b>\$132.8</b>

<sup>1</sup> SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

<sup>2</sup> Numbers may not add due to rounding.

<sup>3</sup> Current Revenue/Capital is revenue used to fund ongoing capital projects.

## **Community Profile and Assessments**

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Fifty-one local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty-five local bodies purchase both. Approximately 2.8 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY15 Proposed Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-18, lists MWRA communities, the services received, and the MWRA assessments for FY15.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-19 presents the calculation of MWRA's FY15 Rate Revenue Requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY15 Proposed Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment Income and Other Revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

## **Wholesale Assessment Methodology**

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.



**Table I-4**

Massachusetts Water Resources Authority Preliminary FY15 Water and Sewer Assessments											6-Feb-14
MWRA Fully Served Water and Sewer Customers	Final FY14 Water Assessment	Preliminary FY15 Water Assessment	Percent Change from FY14	Final FY14 Sewer Assessment	Preliminary FY15 Sewer Assessment	Percent Change from FY14	Final FY14 Combined Assessment	Preliminary FY15 Combined Assessment	Dollar Change from FY14	Percent Change from FY14	
ARLINGTON	\$4,553,819	\$4,557,158	0.1%	\$7,661,286	\$7,728,359	0.9%	\$12,215,105	\$12,285,517	\$70,412	0.6%	
BELMONT	2,516,559	2,583,176	2.6%	4,652,803	4,666,517	0.3%	7,169,362	7,249,693	80,331	1.1%	
BOSTON (BWSC)	73,408,095	75,652,954	3.1%	122,165,554	128,241,428	5.0%	195,573,649	203,894,382	8,320,733	4.3%	
BROOKLINE	5,906,771	6,531,770	10.6%	12,675,295	12,556,277	-0.9%	18,582,066	19,088,047	505,981	2.7%	
CHELSEA	3,524,702	3,794,046	7.6%	6,833,214	7,263,141	6.3%	10,357,916	11,057,187	699,271	6.8%	
EVERETT	4,486,488	4,612,655	2.8%	7,612,435	7,821,122	2.7%	12,098,923	12,433,777	334,854	2.8%	
FRAMINGHAM	7,645,878	7,832,071	2.4%	10,691,353	11,279,040	5.5%	18,337,231	19,111,111	773,880	4.2%	
LEXINGTON	5,555,065	6,037,972	8.7%	7,014,300	7,183,735	2.4%	12,569,365	13,221,707	652,342	5.2%	
MALDEN	6,264,071	6,334,981	1.1%	11,761,795	12,272,039	4.3%	18,025,866	18,607,020	581,154	3.2%	
MEDFORD	5,520,265	6,049,530	9.6%	10,943,641	11,082,553	1.3%	16,463,906	17,132,083	668,177	4.1%	
MELROSE	2,519,249	2,651,359	5.2%	5,648,906	5,951,176	5.4%	8,168,155	8,602,535	434,380	5.3%	
MILTON	2,834,490	2,854,937	0.7%	4,999,997	5,027,130	0.5%	7,834,487	7,882,067	47,580	0.6%	
NEWTON	10,333,024	10,538,352	2.0%	20,152,363	20,202,315	0.2%	30,485,387	30,740,667	255,280	0.8%	
NORWOOD	3,133,277	3,278,650	4.6%	6,147,982	6,503,178	5.8%	9,281,259	9,781,828	500,569	5.4%	
QUINCY	10,147,276	10,608,710	4.5%	18,635,986	18,958,902	1.7%	28,783,262	29,567,612	784,350	2.7%	
READING	1,854,203	1,932,043	4.2%	4,499,328	4,643,815	3.2%	6,353,531	6,575,858	222,327	3.5%	
REVERE	4,353,201	4,485,476	3.0%	9,920,985	10,201,824	2.8%	14,274,186	14,687,300	413,114	2.9%	
SOMERVILLE	6,440,071	6,898,462	7.1%	14,595,600	14,857,731	1.8%	21,035,671	21,756,193	720,522	3.4%	
STONEHAM	3,262,031	3,492,164	7.1%	4,452,189	4,480,705	0.6%	7,714,220	7,972,869	258,649	3.4%	
WALTHAM	7,809,194	8,078,293	3.4%	12,759,248	12,965,710	1.6%	20,568,442	21,044,003	475,561	2.3%	
WATERTOWN	2,945,405	3,097,376	5.2%	5,654,172	5,776,186	2.2%	8,599,577	8,873,562	273,985	3.2%	
WINTHROP	1,429,691	1,454,744	1.8%	3,161,934	3,223,057	1.9%	4,591,625	4,677,801	86,176	1.9%	
<b>TOTAL</b>	<b>\$176,442,825</b>	<b>\$183,356,879</b>	<b>3.9%</b>	<b>\$312,640,366</b>	<b>\$322,885,940</b>	<b>3.3%</b>	<b>\$489,083,191</b>	<b>\$506,242,819</b>	<b>\$17,159,628</b>	<b>3.5%</b>	
MWRA Sewer and Partial Water Customers	Final FY14 Water Assessment	Preliminary FY15 Water Assessment	Percent Change from FY14	Final FY14 Sewer Assessment	Preliminary FY15 Sewer Assessment	Percent Change from FY14	Final FY14 Combined Assessment	Preliminary FY15 Combined Assessment	Dollar Change from FY14	Percent Change from FY14	
CANTON	\$1,414,000	\$991,374	-29.9%	\$3,460,713	\$3,550,219	2.6%	\$4,874,713	\$4,541,593	(\$333,120)	-6.8%	
NEEDHAM	1,271,018	1,194,022	-6.1%	5,423,810	5,468,475	0.8%	6,694,828	6,662,497	(32,331)	-0.5%	
STOUGHTON	758,402	932,352	22.9%	4,364,713	4,393,557	0.7%	5,123,115	5,325,909	202,794	4.0%	
WAKEFIELD	1,604,779	1,612,239	0.5%	5,549,601	5,599,933	0.9%	7,154,380	7,212,172	57,792	0.8%	
WELLESLEY	1,423,735	1,379,806	-3.1%	5,246,821	5,336,355	1.7%	6,670,556	6,716,161	45,605	0.7%	
WILMINGTON	125,176	363,883	190.7%	2,408,266	2,354,227	-2.2%	2,533,442	2,718,110	184,668	7.3%	
WINCHESTER	1,127,860	1,253,851	11.2%	3,718,082	3,868,174	4.0%	4,845,942	5,122,025	276,083	5.7%	
WOBURN	3,549,339	3,033,191	-14.5%	9,134,120	9,548,754	4.5%	12,683,459	12,581,945	(101,514)	-0.8%	
<b>TOTAL</b>	<b>\$11,274,309</b>	<b>\$10,760,718</b>	<b>-4.6%</b>	<b>\$39,306,126</b>	<b>\$40,119,694</b>	<b>2.1%</b>	<b>\$50,580,435</b>	<b>\$50,880,412</b>	<b>\$299,977</b>	<b>0.6%</b>	
MWRA Sewer-only Customers	Final FY14 Water Assessment	Preliminary FY15 Water Assessment	Percent Change from FY14	Final FY14 Sewer Assessment	Preliminary FY15 Sewer Assessment	Percent Change from FY14	Final FY14 Combined Assessment	Preliminary FY15 Combined Assessment	Dollar Change from FY14	Percent Change from FY14	
ASHLAND				\$2,175,735	\$2,309,439	6.1%	\$2,175,735	\$2,309,439	\$133,704	6.1%	
BEDFORD				2,968,529	3,089,601	4.1%	2,968,529	3,089,601	121,072	4.1%	
BRAINTREE				7,759,278	8,375,571	7.9%	7,759,278	8,375,571	616,293	7.9%	
BURLINGTON				4,846,498	4,946,610	2.1%	4,846,498	4,946,610	100,112	2.1%	
CAMBRIDGE				21,224,419	22,189,727	4.5%	21,224,419	22,189,727	965,308	4.5%	
DEDHAM				4,924,268	5,028,656	2.1%	4,924,268	5,028,656	104,388	2.1%	
HINGHAM SEWER DISTRICT				1,562,020	1,653,694	5.9%	1,562,020	1,653,694	91,674	5.9%	
HOLBROOK				1,495,280	1,593,797	6.6%	1,495,280	1,593,797	98,517	6.6%	
NATICK				4,903,457	5,330,803	8.7%	4,903,457	5,330,803	427,346	8.7%	
RANDOLPH				5,561,761	5,932,320	6.7%	5,561,761	5,932,320	370,559	6.7%	
WALPOLE				3,373,364	3,509,912	4.0%	3,373,364	3,509,912	136,548	4.0%	
WESTWOOD				2,362,136	2,426,124	2.7%	2,362,136	2,426,124	63,988	2.7%	
WEYMOUTH				10,400,989	10,980,460	5.6%	10,400,989	10,980,460	579,471	5.6%	
<b>TOTAL</b>				<b>\$73,557,734</b>	<b>\$77,366,714</b>	<b>5.2%</b>	<b>\$73,557,734</b>	<b>\$77,366,714</b>	<b>\$3,808,980</b>	<b>5.2%</b>	
MWRA Water-only Customers	Final FY14 Water Assessment	Preliminary FY15 Water Assessment	Percent Change from FY14	Final FY14 Sewer Assessment	Preliminary FY15 Sewer Assessment	Percent Change from FY14	Final FY14 Combined Assessment	Preliminary FY15 Combined Assessment	Dollar Change from FY14	Percent Change from FY14	
LYNNFIELD WATER DISTRICT	\$467,594	\$490,495	4.9%				\$467,594	\$490,495	\$22,901	4.9%	
MARBLEHEAD	1,990,555	2,102,342	5.6%				1,990,555	2,102,342	111,787	5.6%	
NAHANT	349,194	382,409	9.5%				349,194	382,409	33,215	9.5%	
SAUGUS	2,963,455	3,203,549	8.1%				2,963,455	3,203,549	240,094	8.1%	
SOUTHBOROUGH	695,113	765,928	10.2%				695,113	765,928	70,815	10.2%	
SWAMPSCOTT	1,781,628	1,783,479	0.1%				1,781,628	1,783,479	1,851	0.1%	
WESTON	1,898,881	1,993,677	5.0%				1,898,881	1,993,677	94,796	5.0%	
<b>TOTAL</b>	<b>\$10,146,420</b>	<b>\$10,721,879</b>	<b>5.7%</b>				<b>\$10,146,420</b>	<b>\$10,721,879</b>	<b>\$575,459</b>	<b>5.7%</b>	
MWRA Partial Water-only Customers	Final FY14 Water Assessment	Preliminary FY15 Water Assessment	Percent Change from FY14	Final FY14 Sewer Assessment	Preliminary FY15 Sewer Assessment	Percent Change from FY14	Final FY14 Combined Assessment	Preliminary FY15 Combined Assessment	Dollar Change from FY14	Percent Change from FY14	
DEDHAM-WESTWOOD WATER DISTRICT	\$124,703	\$49,017	-60.7%				\$124,703	\$49,017	(\$75,686)	-60.7%	
LYNN (LWSC)	242,626	209,770	-13.5%				242,626	209,770	(32,856)	-13.5%	
MARLBOROUGH	3,184,761	3,434,592	7.8%				3,184,761	3,434,592	249,831	7.8%	
NORTHBOROUGH	1,022,003	1,044,538	2.2%				1,022,003	1,044,538	22,535	2.2%	
PEABODY	779,127	1,219,702	56.5%				779,127	1,219,702	440,575	56.5%	
<b>TOTAL</b>	<b>\$5,353,220</b>	<b>\$5,957,619</b>	<b>11.3%</b>				<b>\$5,353,220</b>	<b>\$5,957,619</b>	<b>\$604,399</b>	<b>11.3%</b>	
<b>SYSTEMS TOTAL</b>	<b>\$203,216,774</b>	<b>\$210,797,095</b>	<b>3.7%</b>	<b>\$425,504,226</b>	<b>\$440,372,348</b>	<b>3.5%</b>	<b>\$628,721,000</b>	<b>\$651,169,443</b>	<b>\$22,448,443</b>	<b>3.6%</b>	

## Retail Charges

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:

- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue;
- Differences in the means by which communities finance investments in their own water and sewer systems; and
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual retail rate survey.

TABLE I-5  
Calculation of the PFY15 Rate Revenue Requirement  
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$149,216	\$69,005	\$218,221
Allocated Indirect Expenses	\$14,735	\$33,031	\$47,765
	<b>PLUS</b>		
Capital Expenses:			
Debt Service (less offsets)	\$273,129	\$125,054	\$398,183
Current Revenue for Capital	\$9,282	\$918	\$10,200
Other Capital Expenses	\$2,096	\$6,826	\$8,922
	<b>PLUS</b>		
Non-Rate Revenue:			
Investment Income	-\$6,204	-\$3,605	-\$9,810
Fees and Other Revenue	-\$5,253	-\$9,198	-\$14,451
Prior Year Utility Surplus/Deficit Transfer	\$4,175	-\$4,175	\$0
Rate Stabilization	-\$803	-\$7,058	-\$7,862
	<b>EQUALS</b>		
Rate Revenue Requirement	\$440,372	\$210,797	\$651,169

## Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY15, community assessments will represent 95.3% of total revenue.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis. Conservative projections of future rate increases benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue increases enable member communities to adequately plan and budget for future payments to MWRA. However, the Authority continues to tighten certain planning estimate assumptions for future years and has limited annual capital spending to \$160.0 million.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY15 through FY24. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth and use of Rate Stabilization and Bond Redemption reserves through FY2022 to manage the rate increases. For planning purposes, the yearly use of combined reserves is currently limited to a maximum of \$12.0 million. Approximately \$75.0 million of Debt Service Reserve release benefit is included in the planning estimates.

Rates & Budget Projections										
Proposed FY15 Final CEB	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
Total Rate Revenue (\$000)	\$ 651,169	\$ 679,107	\$ 719,981	\$ 751,330	\$ 782,068	\$ 833,175	\$ 852,786	\$ 881,132	\$ 851,963	\$ 838,217
Rate Revenue Change from Prior Year (\$000)	\$ 22,448	\$ 27,938	\$ 40,874	\$ 31,348	\$ 30,738	\$ 51,108	\$ 19,611	\$ 28,346	\$ (29,169)	\$ (13,746)
Rate Revenue Increase	3.6%	4.3%	6.0%	4.4%	4.1%	6.5%	2.4%	3.3%	-3.3%	-1.6%
Use of Reserves (\$000)	\$ 9,162	\$ 12,000	\$ 12,000	\$ 12,000	\$ 204	\$ 12,000	\$ -	\$ 12,000	\$ -	\$ -

### Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$ 1,011	\$ 1,014	\$ 1,065	\$ 1,133	\$ 1,184	\$ 1,227	\$ 1,295	\$ 1,352	\$ 1,412	\$ 1,448
Based on annual water usage of 90,000 gallons	\$ 1,491	\$ 1,568	\$ 1,652	\$ 1,735	\$ 1,813	\$ 1,910	\$ 1,994	\$ 2,083	\$ 2,133	\$ 2,184

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's Tax-Exempt Commercial Paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new

water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, extended maturities on future borrowings, variable rate debt, and increased use of Tax-Exempt Commercial Paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget factor is projected growth of base operating costs. The estimated \$60.0 million increase in direct expenses from FY15 to FY24 is primarily the result of an assumed annual inflation rate. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- Direct expense inflation rate of 2.5% for salaries and 3.0% for other direct expenses starting in FY14;
- CIP inflation rate of 2.5%;
- Capital spending based on the latest CIP expenditure forecast up to FY18, and spending is capped at \$160 million per year starting in FY19;
- Long-term fixed rate debt issues with 30-year terms and 5.0% interest rates in FY15, 5.5% rates in FY16, 5.75% rates in FY17 and 6.0% rates from FY18 and beyond;
- Variable rate interest projected at 3.25% in FY15, 3.50% in FY16, 3.75% in FY17, and 4.0% thereafter.

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Changes in anticipated borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or reserved to offset Rate Revenue Requirements in future years;
- Fewer opportunities for SRF borrowing than expected due to Federal Budget cuts; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Overall inflationary pressures;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions is an area of increased concern. Many of the savings in prior years through staffing reductions, optimization of operations, and scope

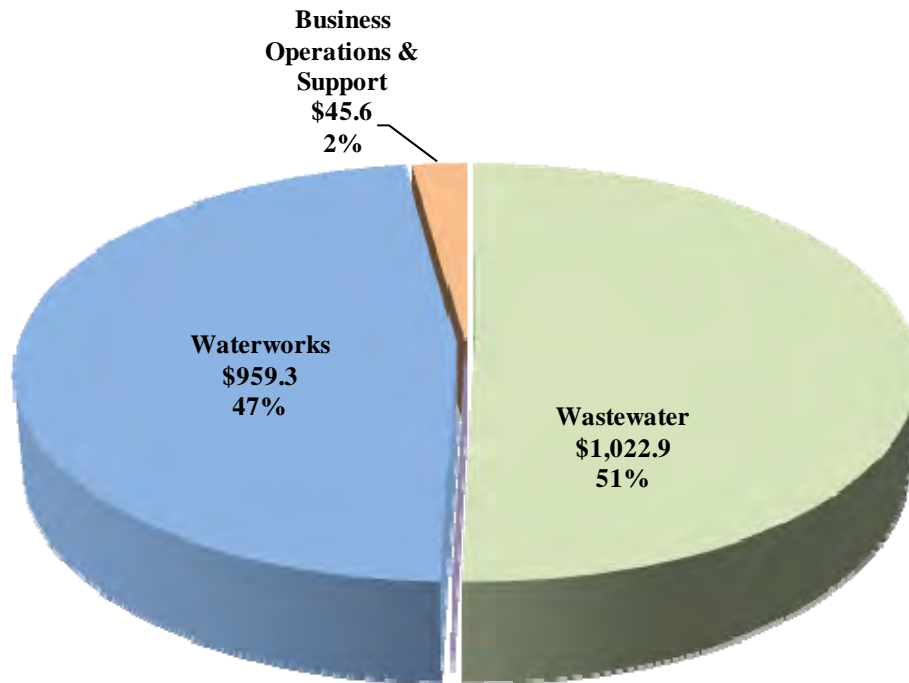
revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

As in the past, the peak years on the next ten-year horizon regarding assessments are driven by the current debt structure. FY17 and FY20 represent significant challenges for the Authority from a long-term rates management perspective.

### The FY15 Proposed Capital Improvement Program

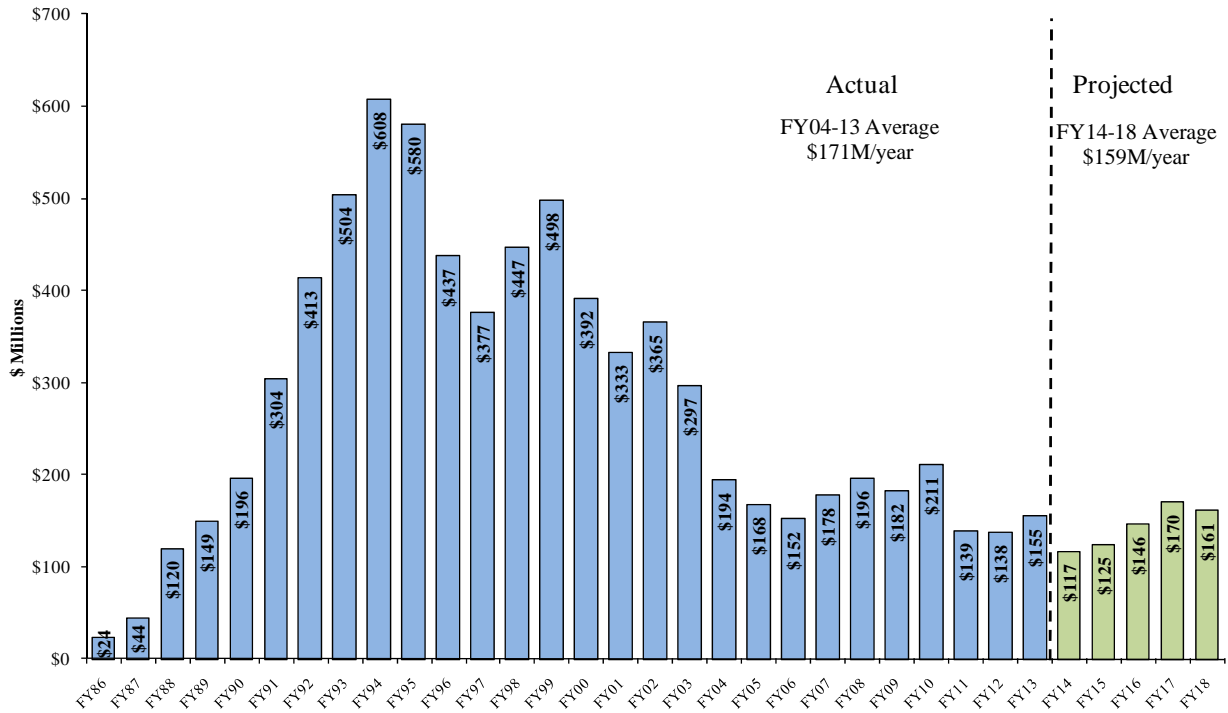
The FY15 Proposed Capital Improvement Program (CIP) budget totals \$5.7 billion, of which approximately \$3.7 billion has been expended through FY13 with a remaining balance of \$2.0 billion. It is important to note that the totals represented above do not include the Boston Harbor Project and some other smaller projects removed from the CIP upon completion. These projects totaled approximately \$4.1 billion dollars. As such, the overall Authority CIP budget since inception totals more than \$9.8 billion dollars of which \$7.8 billion has been spent through FY13.

Of the remaining spending, Wastewater System Improvements represent \$1.0 billion or 51%, Waterworks System Improvements represent \$959.3 million or 47%, and Business and Operations Support are \$45.6 million or 2%.



## Historical Spending

The chart below captures the historical CIP spending through FY13 and projects spending to FY18 based on the FY15 Proposed CIP.



The average spending for FY04-13 was \$171.0 million per year and based on the FY15 Proposed CIP, we are currently projecting average annual spending during the FY14-18 Cap period will be approximately \$159.0 million per year.

### FY14-18 Cap Spending

During the FY14 budget cycle, the FY14-18 spending cap was established at \$791.7 million which was \$348.0 million less than the \$1,139.2 million average of the prior two cap periods. The FY15 Proposed CIP budget anticipates capital expenditures in the FY14-18 timeframe to total \$718.8 million. Including contingency of \$46.2 million and inflation of \$28.3 million offset by Chicopee Valley Aqueduct adjustments of \$6.2 million, the FY15 Proposed FY14-18 Cap totals \$787.1 million which is \$4.6 million or 0.6% less than the FY14 Final FY14-18 Base-Line Cap.

### *Changing Nature of the Capital Program - Shift from Mandated Projects*

Since 1985, nearly 80% of the Authority's spending has been on court mandated projects. Going forward, the majority of spending will support Asset Protection, Water System Redundancy, Pipeline Replacement and Rehabilitation, and continued support for Community Assistance programs.

Asset Protection and Water System Redundancy spending is projected to rise from past levels and currently accounts for 53.5% and 28.0% of FY14-18 capital expenditures respectively, a total of nearly \$585.7 million of the \$718.8 million projected to be spent over the 5-year period.

	FY09-13	FY14-18	FY19-23
Asset Protection	\$ 252.0	\$ 384.7	\$ 602.2
Carroll WTP	39.4	20.3	1.9
Water Redundancy	138.4	201.0	454.8
CSO	316.5	54.9	1.3
Other	80.1	58.0	(29.4)
<b>Total</b>	<b>\$ 826.4</b>	<b>\$ 718.8</b>	<b>\$ 1,030.8</b>
<b>Asset Protection</b>	<b>30.5%</b>	<b>53.5%</b>	<b>58.4%</b>
Carroll WTP	4.8%	2.8%	0.2%
<b>Water Redundancy</b>	<b>16.7%</b>	<b>28.0%</b>	<b>44.1%</b>
CSO	38.3%	7.6%	0.1%
Other	9.7%	8.1%	-2.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

### **FY14-18 Proposed CIP Expenditures**

Spending during the FY14-18 timeframe is projected to be at \$718.8 million. Yearly cash-flows for the proposed Cap period are shown below:

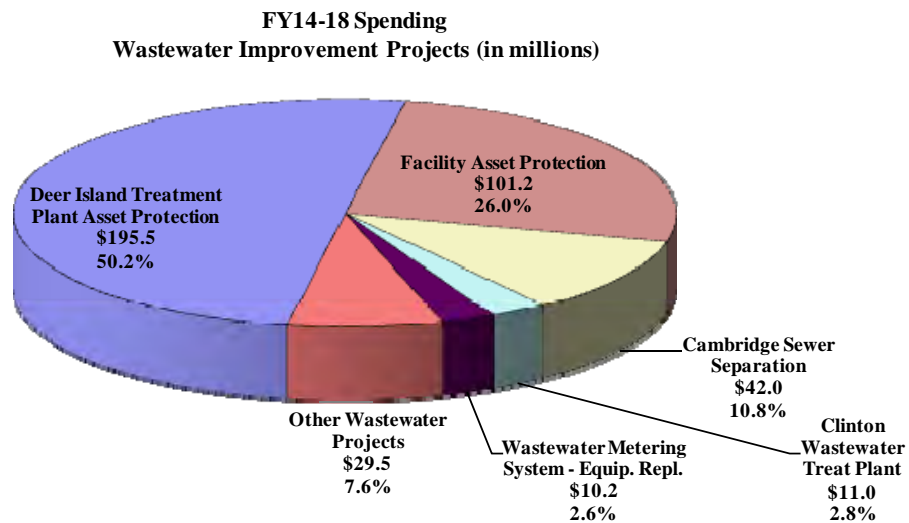
	Total Contract Amount	Payments Thru FY13	Remaining Balance	FY14	FY15	FY16	FY17	FY18	Total FY14-18
<b>Wastewater System Improvements</b>	<b>\$2,758.9</b>	<b>\$1,736.0</b>	<b>\$1,022.9</b>	<b>\$62.4</b>	<b>\$73.1</b>	<b>\$80.1</b>	<b>\$91.4</b>	<b>\$82.3</b>	<b>\$389.4</b>
Interception & Pumping	870.6	520.5	350.0	7.2	13.0	27.0	31.8	36.1	115.1
Treatment	703.6	184.7	518.9	23.8	41.3	47.7	54.8	38.9	206.5
Residuals	168.0	64.5	103.5	0.5	0.0	1.7	3.9	4.9	11.0
CSO	893.8	837.7	56.1	31.7	19.1	3.3	0.0	0.8	54.9
Other Wastewater	122.9	128.5	(5.6)	(0.8)	(0.4)	0.5	0.9	1.6	1.8
<b>Waterworks System Improvements</b>	<b>\$2,833.9</b>	<b>\$1,874.7</b>	<b>\$959.3</b>	<b>\$48.4</b>	<b>\$42.0</b>	<b>\$55.8</b>	<b>\$70.2</b>	<b>\$74.3</b>	<b>\$290.7</b>
Drinking Water Quality Improvements	658.1	595.2	62.9	35.3	17.4	5.6	2.0	0.7	61.0
Transmission	1,197.5	755.0	442.5	6.1	18.1	25.6	28.0	17.8	95.5
Distribution & Pumping	929.4	372.7	556.7	7.9	7.7	21.5	36.5	49.9	123.6
Other Waterworks	48.9	151.7	(102.8)	(1.0)	(1.2)	3.1	3.7	5.9	10.5
Business & Operations Support	123.0	77.4	45.6	6.3	9.6	9.9	8.6	4.4	38.8
<b>Total MWRA</b>	<b>\$5,715.9</b>	<b>\$3,688.1</b>	<b>\$2,027.8</b>	<b>\$117.0</b>	<b>\$124.6</b>	<b>\$145.9</b>	<b>\$170.3</b>	<b>\$161.0</b>	<b>\$718.8</b>

## Top 10 Projects in the FY14-FY18 Cap Period

It is important to emphasize that the majority of spending within the Wastewater and Waterworks programs is concentrated in several larger projects with significant spending in the FY14-18 timeframe. These projects are either currently under construction or soon to be awarded. The top 5 projects for the Wastewater program total \$359.9 million for FY14-18 period and represent 92.4% of the \$389.4 million total program.

### Wastewater Program

The breakdown of the \$389.4 million Wastewater program by major project is illustrated on the graph below:



The FY14-18 sub-phases of projects with spending greater than \$20.0 million along with a brief description of the scope of work are included below:

**Chelsea Headworks Construction** - \$42.1 million (\$53.7 million total construction cost). This major rehabilitation project includes replacement/upgrade to the screens, grit collection system, grit and handling systems, odor control systems, HVAC, mechanical, plumbing and instrumentation. Solids handling systems will be automated and the building's egress and fire suppressions systems will also be upgraded.

**Cambridge Sewer Separation CSO Control Program Design and Construction**- \$42.0 million (\$92.4 million total construction costs, \$50.5 already spent). This project encompasses the wastewater system improvements implemented by the City of Cambridge to control CSO discharges to the Alewife Brook. Completed work includes the CAM004 Stormwater Outfall and Wetland Basin, Interceptor Connection Relief and Floatables Controls, and Sewer Separation at Outfall CAM400. Remaining work involves three construction contracts to separate combined sewers in a 211-acre area upstream of Outfall CAM004 in the Huron Avenue and Concord Avenue neighborhoods, east of Fresh Pond Parkway. Cambridge's contracts 8A and 8B are well underway, and Cambridge plans to award Contract 9 in early 2014. The contracts will redirect stormwater removed from the system to the wetland basin and will culminate in the closing of Outfall CAM004. All work is scheduled to be



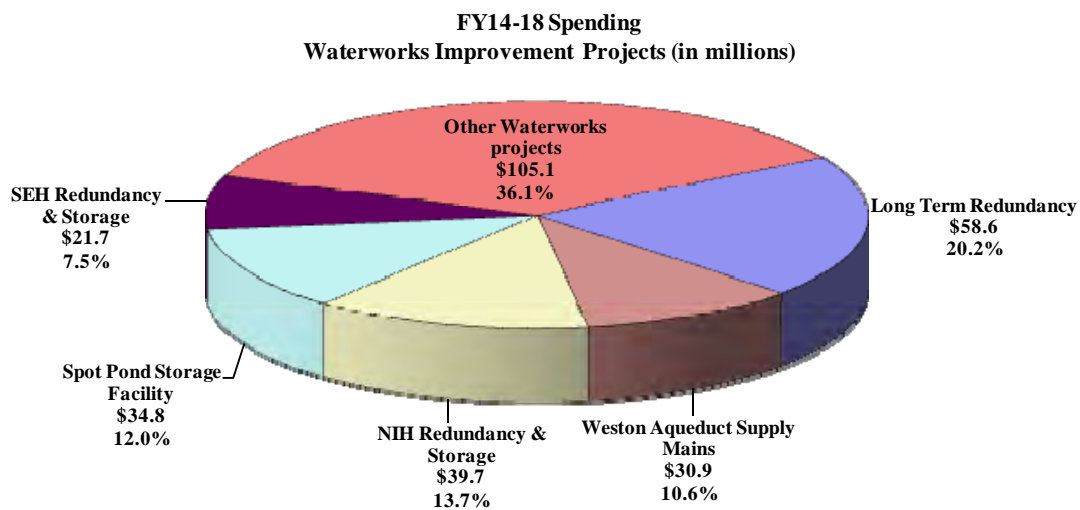
complete by December 2015 in compliance with Schedule Seven of the Federal District Court Order.

**Deer Island Scum Skimmer Replacement** - \$20.2 million - This is an asset protection replacement project which proposes to replace degraded carbon steel tip tubes and drive mechanisms for 40 primary clarifier tanks and 54 secondary clarifier tanks with stainless steel components to improve the system reliability and overall maintenance.

**Water program**

Similarly, the top 5 projects for the Waterworks program total \$185.6 million for FY14-18 and represent 63.9% of the \$290.7 million total program.

The breakdown of the \$290.7 million program by major project is illustrated on the graph below:



**Wachusett Aqueduct Pump Station Construction** - \$47.0 million - This is a redundancy project for construction of a 240 mgd emergency pump station which will provide redundancy for the Cosgrove Tunnel by pumping raw water from the Wachusett Aqueduct to the Carroll Water Treatment Plant. This project, along with the completion of the on-going Hultman Aqueduct rehabilitation and interconnections project, will provide fully treated water transmission redundancy from the Wachusett Reservoir to the beginning of the metropolitan distribution system in Weston.

**Spot Pond Storage Facilities** - \$34.8 million (\$59.3 million total construction cost) - This project is for the construction of a 20 million-gallon drinking water storage facility and redundant pump station in Stoneham. The underground, concrete tanks will provide drinking water storage for MWRA's Low Service area. Additionally, this project will provide system redundancy for 21 communities in the Northern Intermediate High and Northern High service areas currently served by the Gillis Pump Station.

**Northern Intermediate High (NIH) Section 89 & 29 Redundancy Construction Phases 1 & 2** - \$19.0 million and \$12.1 million respectively (total construction cost \$22.0 million and \$22.4 million) - This is a redundancy project for the MWRA's Northern Intermediate High service area. Currently, this area is primarily supplied by a single 48-inch diameter pipeline, the Gillis Pump Station, and water

distribution storage from the Bear Hill Tank. This project proposes a new seven mile redundant pipeline under two construction phases and will provide uninterrupted water supply to the service area in the event of a failure of the existing single supply pipe and to allow the existing pipe to be removed from service for inspection, maintenance, and repair.

**FY15 Proposed CIP Compared to the FY14 Final CIP by Program**

The FY15 Proposed CIP represents updated spending and schedules for projects contained in the FY14 Final CIP and new spending on nine wastewater projects, three of which were selected from the Master Plan. The majority of the new projects are related to the co-digestion initiative at Deer Island whereby food waste would be added to the digesters thus producing more methane and consequently, more electricity. This initiative is driven by a new regulatory effort by the Department of Environmental Protection (DEP) to require producers of food waste to have it treated instead of landfilled. The proposed projects related to the co-digestion initiative will be constructed only if the Pilot program substantiates the viability and profitability of a full scale operation.

The FY15 Proposed CIP represents updated spending and schedules for projects contained in the FY14 Final CIP. The FY15 Proposed CIP increased by \$87.4 million or 1.6% above the FY14 Final CIP approved by the Board of Directors in June 2013.

	FY14 Final	FY15 Proposed	\$ Change	% Change	FY14-18 \$ Change	FY14-18 % Change
Wastewater Systems Improvements	\$ 2,685.1	\$ 2,758.9	\$ 73.8	2.7%	\$ 20.4	5.5%
Waterworks System Improvements	\$ 2,821.0	\$ 2,833.9	\$ 13.0	0.5%	\$ (16.4)	-5.4%
Business and Operations Support	\$ 122.4	\$ 123.0	\$ 0.6	0.5%	\$ (3.1)	-7.5%
<b>Total MWRA without contingency</b>	<b>\$ 5,628.5</b>	<b>\$ 5,715.9</b>	<b>\$ 87.4</b>	<b>1.6%</b>	<b>\$ 0.9</b>	<b>0.1%</b>

The majority of the increase from the FY14 Final CIP is attributable to the inclusion of nine new project requests totaling \$51.9 million, updated inflation assumptions, scope changes, and updated cost estimates totaling approximately \$35.5 million.

**Future Risk Factors**

Due to the very nature of the Capital Improvement Program, there will be changes to projects over time due to schedule shifts, revisions to projects’ scope, cost increases or decreases, environmental mandates, etc. In every budget cycle, the MWRA re-evaluates capital improvement needs and estimates project costs based on the latest available information. It is important to note that there are several risk factors which could increase spending.

Below is a list of projects which may change the budget put forth for FY15 given that the preferred option for execution is not decided at this time:

- Residual Processing/Asset management;
- Sudbury Aqueduct – tunnel vs. surface pipeline;
- North Metropolitan Trunk Sewer Rehabilitation complexity;

- Chelsea Creek Headworks Rehabilitation; and
- New regulatory mandates

## CIP Impact on Current Expense Budget

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. New facilities are adding operating costs of approximately \$685,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$713,000 by FY25. These increases are offset by anticipated savings for energy initiatives at Deer Island as well as water and wastewater Alternative Energy Initiatives including solar, wind, and hydro-electric power projects which will result in energy savings of approximately \$1.3 million over the next 10 years. The following table summarizes projected CIP impact by project over the next ten years, beginning in FY16 on the operating budget.

Fiscal Year	CEB Impacts (000)										
	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
DI Treatment Plant Asset Protection	\$0	(\$326)	(\$33)	\$0	(\$146)	(\$72)	(\$74)	\$0	\$0	\$0	(\$650)
FERS Biofilter	0	0	0	0	0	0	0	0	0	0	0
Clinton Phosphorous Removal Project	0	0	120	0	0	0	0	0	0	0	120
Wastewater Alternative Energy Projects	0	0	(132)	0	0	0	(418)	0	0	0	(550)
North Dorchester Bay	0	371	0	0	0	0	0	0	0	0	371
<b>Total Wastewater (inflated)</b>	<b>\$0</b>	<b>\$46</b>	<b>(\$45)</b>	<b>\$0</b>	<b>(\$146)</b>	<b>(\$72)</b>	<b>(\$492)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>(\$709)</b>
Carroll Water Treatment Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Quabbin Water Treatment Plant	10	0	0	0	0	0	0	0	0	0	10
Wachusett Algae Treatment Facility	0	0	0	0	35	36	0	0	0	0	71
Spot Pond Storage Facility	113	0	0	0	0	0	0	0	0	0	113
Water Energy Projects	0	0	(66)	0	0	0	0	0	0	0	(66)
<b>Total Water (inflated)</b>	<b>\$124</b>	<b>\$0</b>	<b>(\$66)</b>	<b>\$0</b>	<b>\$35</b>	<b>\$36</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$129</b>
Maximo Upgrades & Lawson Enhancements	\$52	\$0	\$109	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$161
Storage Upgrades	0	0	109	113	0	0	0	0	0	0	222
Telecommunications	0	0	0	28	0	0	0	0	0	0	28
NET 2020 DITP & Southborough	77	0	0	0	0	0	0	0	0	0	77
Information Security Program	0	0	33	0	0	0	0	0	0	0	33
Information Technology Management Program	0	74	0	0	0	0	0	0	0	0	74
Information Technology Management Program	31	0	0	0	0	0	0	0	0	0	31
IT Infrastructure Program	88	0	0	0	0	0	0	0	0	0	88
<b>Total Business and Operations Support (inflated)</b>	<b>\$247</b>	<b>\$74</b>	<b>\$251</b>	<b>\$141</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$713</b>
<b>TOTAL MWRA</b>	<b>\$371</b>	<b>\$120</b>	<b>\$141</b>	<b>\$141</b>	<b>(\$111)</b>	<b>(\$36)</b>	<b>(\$492)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$133</b>

## Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. However, since FY03, the MWRA has only received \$4.9 million in capital grants. In addition to participating in federal and state grant programs, the MWRA benefitted from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$33.0 million in State Revolving Fund loan principal. The Authority continues to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a Tax-Exempt Commercial Paper program.

## **MWRA Organization and History**

### **The MWRA Enabling Act**

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to the MWRA.

### **History and Accomplishments**

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long-term Combined Sewer Overflow (CSO) control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (MassDEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

### **MWRA Rates Management**

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating

costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. Additionally, the Authority made substantial cuts to both its capital improvement program and current expense budgets. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of the two. In response to a strengthening local economy, debt service assistance was restored in FY04 at the level of \$4.1 million. In the following four years, the debt service allocation increased to \$8.0 million in FY05, \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in the ensuing years, no Debt Service Assistance was received in FY09-11. In FY12, it was once again restored at a reduced level of \$384,000 but was once again eliminated in FY13 through 9C cuts. For the FY14 and FY15 budgets, no Debt Service Assistance has been assumed. In March 2014 the MWRA received \$854,000 of Debt Service Assistance.

Planning estimates for 2016 through 2024 forecast rate revenue requirement increases of 3.6% in FY15, 4.3% in FY16, 6.0% in FY17, 4.4% in FY18, 4.1% in FY19, 6.5% in FY20, 2.4% in FY21, 3.3% in FY22, and a negative 3.3% and 1.6% in years FY23 and FY24, respectively.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant. The changes to the indenture will release more than \$100.0 million in reserves that can be used to mitigate future rate increases, but the release date is now projected to occur during FY16 based on current borrowing projections.

FY14 marked the first year when debt repayment exceeds new debt issues and thus marking the first year where leverage will decline. This is expected to continue for the foreseeable future and debt levels are projected to decline steadily. This will have a favorable influence on future rate increases.

The FY15 Budget:

- Continues to refine planning estimates assumptions to provide greater predictability of future assessments;
- Judiciously uses reserves to lower rate increases, but maintain adequate balances; and
- Continues the Authority's multi-year rates management strategy of providing predictable and reasonable rate increases to our member communities.

## **MWRA Organization**

MWRA has four separate divisions and the Affirmative Action and Compliance Unit Department (AACU).

Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees. It includes the following departments: Office of Emergency Preparedness; Public Affairs; and Internal Audit.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; monitors water quality; and includes the Planning and Coordination Department.

The **Administration and Finance Division** was created in 2009 and is responsible for managing the finance and support service functions necessary to support daily operations of the Authority and insure the implementation of the Authority's long-term goals and strategies.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

The **Affirmative Action and Compliance Unit (AACU) Department** develops, administers and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority procurement activities.

## **Statement of Financial Position**

In accordance with its enabling act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the State Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2013 are available online at [www.mwra.com](http://www.mwra.com).



Executive Office  
Budget



**EXECUTIVE OFFICE**

<b>FY15 Proposed Current Expense Budget EXECUTIVE DIVISION</b>						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 483,283	\$ 534,191	\$ 542,963	\$ 559,132	\$ 16,169	3.0%
OVERTIME	-	-	-	-	-	-
MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	695	-	900	900	-	0.0%
PROFESSIONAL SERVICES	142,888	145,098	160,696	161,506	810	0.5%
OTHER MATERIALS	1,187	5,105	3,585	4,085	500	13.9%
OTHER SERVICES	439,109	455,588	469,973	506,082	36,109	7.7%
<b>TOTAL</b>	<b>\$ 1,067,162</b>	<b>\$ 1,139,982</b>	<b>\$ 1,178,117</b>	<b>\$ 1,231,705</b>	<b>\$ 53,588</b>	<b>4.5%</b>

<b>FY15 Proposed Current Expense Budget EXECUTIVE DIVISION by Department</b>						
DEPARTMENT	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 489,399	\$ 542,799	\$ 551,812	\$ 568,457	\$ 16,645	3.0%
ADVISORY BOARD / OTHER COMMITTEES	577,763	597,183	626,305	663,248	36,943	5.9%
<b>TOTAL</b>	<b>\$ 1,067,162</b>	<b>\$ 1,139,982</b>	<b>\$ 1,178,117</b>	<b>\$ 1,231,705</b>	<b>\$ 53,588</b>	<b>4.5%</b>

The **Executive Office** provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Office has direct oversight of the Office of Emergency Preparedness, Internal Audit, Public Affairs, and the Affirmative Action and Compliance Unit (AACU) Departments.

**FY15 Goals:**

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Provide overall management of the agency and ensure adherence to all applicable policies and regulations.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Manage communication and garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office, the Board of Directors, the MWRA Advisory Board, and two Advisory Committees. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as “watchdog” for MWRA’s customer communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports, holds hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the MWRA FY15 Final Direct Expense Budget.

**Budget Highlights:**

- The FY15 Proposed Budget is \$1.2 million, an increase of \$54,000 or 4.5% from the FY14 Budget.
- \$559,000 for **Wages and Salaries**, an increase of \$16,000 or 3.0% as compared to the FY14 Budget mainly due to projected cost of living adjustments. The proposed budget includes funding for five positions.
- \$162,000 for **Professional Services**, level funded with the FY14 Budget. This budget funds the Water Supply Citizens’ Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC) budgets.
- \$506,000 for **Other Services**, an increase of \$36,000 or 7.7% from the FY14 Budget mainly due to projected increases in the MWRA Advisory Board operating expenses which include wages and salaries, space rental, and general administrative office expenses.

**OFFICE OF EMERGENCY PREPAREDNESS**

<b>FY15 Proposed Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS</b>						
<b>LINE ITEM</b>	<b>FY12 Actual</b>	<b>FY13 Actual</b>	<b>FY14 Budget</b>	<b>FY15 Proposed</b>	<b>Change FY14 to PFY15</b>	
WAGES & SALARIES	\$ 357,479	\$ 390,132	\$ 425,859	\$ 433,455	\$ 7,596	1.8%
OVERTIME	-	12	-	-	-	-
MAINTENANCE	235,838	399,123	358,500	375,000	16,500	4.6%
TRAINING & MEETINGS	2,117	1,652	-	-	-	-
PROFESSIONAL SERVICES	1,476,020	1,587,698	1,908,295	1,708,295	(200,000)	-10.5%
OTHER MATERIALS	50,343	31,311	35,535	35,535	-	0.0%
OTHER SERVICES	21,000	10,774	122,100	124,040	1,940	1.6%
<b>TOTAL</b>	<b>\$ 2,142,797</b>	<b>\$ 2,420,702</b>	<b>\$ 2,850,289</b>	<b>\$ 2,676,325</b>	<b>\$ (173,964)</b>	<b>-6.1%</b>

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies, and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit (ESU), which will respond to any intentional or accidental contamination of the water supply. The Director of Emergency Planning and Preparedness reports directly to the Executive Director.

**FY15 Goals:**

- Develop and implement policies and programs to provide security, critical infrastructure protection, and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train, and command the Emergency Service Unit (ESU).
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and security maintenance contracts.

**FY15 Initiatives:**

- Continue to enhance Emergency Response Plans for all water and wastewater facilities. Update Emergency Action Plans (EAPs) as needed, including Dam EAPs and spill control EAPs.
- Continue the process of ensuring that new construction and rehabilitation of facilities includes an integrated security and surveillance system improvement component. Continue task order security enhancement designs for selected water and wastewater critical sites, fencing installation, and other facility hardening initiatives. Continue planning for updating the security monitoring system to replace obsolete equipment.
- Implement notification drills, tabletop exercises, and field training exercises (including at least one major field drill). Continue the community emergency response training program and tabletop exercise series for critical service areas with community staff.
- Continue to transition security system communications technology to the new standard.

### **FY14 Mid-Year Accomplishments:**

- Continued to update spill control Emergency Action Plans for water and wastewater facilities subject to spill regulations. Provided refresher training to all operations staff on spill control procedures.
- Completed Dam Emergency Action Plans for Western Section dams with detailed inundation mapping. The Metro facilities are currently in the procurement process for consultant selection.
- Completed a total of 44 training events or drills so far in FY14.
- Completed deployment of new digital transmission vehicle, base, and handheld radios to support DCR's planned transition from analog equipment to digital equipment.
- Received the final payment for a Department of Homeland Security (DHS) grant of \$252,000 for implementation of hardening improvements from the 2010 DHS Regional Resiliency review and completed procurement of related items.
- Continued the process of ensuring that new construction and rehabilitation of facilities include an integrated security and surveillance system improvement component.
- Continued to provide an emergency response training program and a tabletop exercise series for critical service areas for MWRA community staff.
- Procured a new Guard Services contract.

### **Budget Highlights:**

- The FY15 Proposed Budget is \$2.7 million, a decrease of \$174,000 or 6.1% from the FY14 Budget.
- \$433,000 for **Wages and Salaries**, an increase of \$8,000 or 1.8% from the FY14 Budget is mainly due to projected cost of living adjustments. The budget includes funding for five positions.
- \$375,000 for **Ongoing Maintenance**, an increase of \$17,000 or 4.6% from the FY14 Budget mainly due to increases for the new Intrusion Alarm and Semi-Annual monitoring service contracts and additional sites to be covered. This budget includes funding of \$241,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$105,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$29,000 for the intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.7 million for **Professional Services**, a decrease of \$200,000 or 10.5% from the FY14 Budget primarily due to the elimination of FY14 one-time Dam EAP Updating Services cost. The proposed budget includes \$607,000 for security services for the DITP facility, \$567,000 for the Chelsea facility, \$348,000 for the Carroll Water Treatment Plant, \$40,000 for Charlestown Navy Yard (CNY) facility, \$87,000 for the Account Manager, and \$59,000 for the Roving guard.
- \$36,000 for **Other Materials** is level funded from the FY14 Budget. This budget mainly funds purchase of Health and Safety materials for the ESU Team.
- \$124,000 for **Other Services**, an increase of \$2,000 or 1.6% from the FY14 Budget due to an increase in annual licensing cost for two-way radios with Department of Conservation and Recreation (DCR). This budget also includes funding for mandatory monthly testing and inspection of the Self-Contained Breathing Apparatus (SCBA).

**AFFIRMATIVE ACTION and COMPLIANCE**

FY15 Proposed Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 548,888	\$ 513,749	\$ 575,001	\$ 574,277	\$ (724)	-0.1%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	1,620	0	2,000	2,000	-	0.0%
OTHER MATERIALS	1,260	1,393	1,510	1,854	344	22.8%
OTHER SERVICES	580	309	632	620	(12)	-1.9%
<b>TOTAL</b>	<b>\$ 552,348</b>	<b>\$ 515,451</b>	<b>\$ 579,143</b>	<b>\$ 578,751</b>	<b>\$ (392)</b>	<b>-0.1%</b>

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Disadvantaged Business Enterprises (DBE) in Authority procurement activities.

**FY15 Goals:**

- Assist divisions and departments in the implementation of MWRA’s affirmative action program and promote MWRA’s policy of non-discrimination for all persons in or recruited into its work force.
- Maintain adequate internal audit and reporting systems to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for female and minority representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Assist the Human Resources department in the coordination and oversight of all external/internal recruitment and selection activities including interviewing, hiring, transfers, and promotions of protected class candidates.
- Provide for the equitable participation of minority/women and disadvantaged-owned businesses in procurement opportunities, ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE/DBE program policies and practices and monitor and report on contractor compliance and expenditures.

**FY15 Initiatives:**

- Conduct a comprehensive self-identification outreach program for applicants and employees who are covered veterans.

**FY14 Mid-Year Accomplishments:**

- Provided management guidance and participated in 33 position(s) selection committee interviews, sourced eighteen (18) outreach contacts, and referred 13 qualified candidates to Human Resources for underutilized positions.

- Conducted oversight of 73 construction and professional projects including 9 site visits and one compliance audit to ensure contractor compliance with the MWRA's MBE/WBE/DBE Program. All MBE/WBE targets have been achieved except, WBE Professional Services.

**Budget Highlights:**

- The FY15 Proposed Budget is \$579,000, level funded with the FY14 Budget.
- \$574,000 for **Wages and Salaries**, level funded with the FY14 Budget. The proposed budget includes funding for seven positions.

## INTERNAL AUDIT

FY15 Proposed Current Expense Budget INTERNAL AUDIT						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 632,155	\$ 651,971	\$ 671,181	\$ 701,955	\$ 30,774	4.6%
OVERTIME	-	11	-	-	-	-
MAINTENANCE	5	-	-	-	-	-
TRAINING & MEETINGS	5,065	4,596	7,238	7,238	-	0.0%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	1,394	1,764	2,020	2,020	-	0.0%
OTHER SERVICES	1,306	1,100	1,062	1,062	-	0.0%
<b>TOTAL</b>	<b>\$ 639,925</b>	<b>\$ 659,442</b>	<b>\$ 681,501</b>	<b>\$ 712,275</b>	<b>\$ 30,774</b>	<b>4.5%</b>

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws, and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

### FY15 Goals:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

### FY14 Mid-Year Accomplishments:

- Identified \$323,000 in savings related to: management advisory services, consultant audits, construction labor burden reviews, the early termination of two janitorial services contracts, and a Charlestown Navy Yard lease operating cost adjustment.
- Issued final audit reports on a follow-up review of Fleet Services activities, and reviews of the Wastewater Advisory Committee ((WAC) and Water Supply Citizens Advisory Committee (WSCAC). Issued five incurred cost audits, one preliminary consultant and four preliminary construction reviews, and several contract reviews.
- Provided management advisory and data analysis services for management initiatives dealing with the HEEC cross-harbor cable and the New England Fertilizer Company contract for operating the Pellet Plant.

### Budget Highlights:

- The FY15 Proposed Budget is \$712,000, an increase of \$31,000 or 4.5% from the FY14 Budget.
- \$702,000 for **Wages and Salaries**, an increase of \$31,000 or 4.6% from the FY14 Budget primarily due to projected cost of living adjustments. The proposed budget includes funding for eight positions.

## PUBLIC AFFAIRS

FY15 Proposed Current Expense Budget PUBLIC AFFAIRS						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,036,558	\$ 1,085,187	\$ 1,133,107	\$ 1,050,525	\$ (82,582)	-7.3%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	(463)	4,410	3,365	3,365	-	0.0%
PROFESSIONAL SERVICES	1,050	3,187	1,050	1,050	-	0.0%
OTHER MATERIALS	22,391	25,505	21,625	21,625	-	0.0%
OTHER SERVICES	41,861	33,815	48,967	48,487	(480)	-1.0%
<b>TOTAL</b>	<b>\$ 1,101,397</b>	<b>\$ 1,152,104</b>	<b>\$ 1,208,114</b>	<b>\$ 1,125,052</b>	<b>\$ (83,062)</b>	<b>-6.9%</b>

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The department works for passage of legislation necessary to carry out MWRA's mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects.

The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning and Coordination Department staff to ensure compliance with state and local regulations and restrictions.

The **Environmental Review and Compliance Section** is responsible for directing Authority-wide MEPA environmental review to ensure that MWRA facilities are protected and private development projects do not negatively impact MWRA facilities. The section is the lead to implement the Public Access Aqueduct Program, a program approved by the Board in April 2012, that authorizes public access along MWRA emergency back-up Aqueducts located in 14 cities and towns in the MetroWest area.

The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA. In addition, the Education Section is responsible for curriculum development, teacher training workshops, as well as providing school education materials on water quality, water conservation, wastewater topics, and environmental issues. Both sections are lead by the Special Assistant to the Executive Director, located in the Executive Office.

### FY15 Goals:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through extensive outreach and effective communication.
- Monitor and analyze legislation and regulations that affect the Authority and formulate appropriate responses as applicable.
- Continue to coordinate the review of projects filed with Massachusetts Environmental Protection Agency (MEPA), and submit timely MEPA responses to ensure that Authority owned infrastructure is protected.
- Gain public support for MWRA programs and projects while responding to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements, and provide



input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

- Maintain and update MWRA's Community Contact Database. This Community Contacts tracking application is used to notify MWRA's communities of any operational issues or emergencies affecting them or surrounding communities.
- Continue to provide accurate and timely information to the public through the MWRA's website and the media, including social media like Twitter and Flickr.
- Continue to circulate Annual Water Quality Report to every household within the MWRA service area.

#### **FY15 Initiatives:**

##### ***Ongoing Advocacy – Commonwealth Rate Relief***

*MWRA's highest legislative priority continues to focus on the need for a more robust "Commonwealth Rate Relief Package" to help offset anticipated rate increases over the next several years. The current FY15 House Budget includes \$1M for Sewer Rate Relief. Staff will continue to monitor the budget process as it moves to the Senate and subsequent Conference Committee this spring and summer.*

##### ***SB2013: An Act Improving Drinking Water and Wastewater Infrastructure***

*In January 2013, Senate President Therese Murray committed to address the ongoing critical need for financial assistance for drinking and wastewater infrastructure. SB2013 (originally SB1880) is an attempt to address these issues. Provisions of the bill include: (subject to appropriation) a 1:1 match to help interested communities pay the MWRA entrance fee; (subject to appropriation) a reimbursement of up to \$13.8M of I/I interest free grants and loans provided by MWRA; and additional financial assistance, including principal forgiveness, for projects connecting a local or regional governmental unit to the MWRA system.*

*The Executive Director has testified and written in support of the above provisions and more; and Public Affairs, in concert with the MWRA Advisory Board and A&F, have actively participated in the broader advocacy effort undertaken by the Water Infrastructure Alliance.*

#### **FY 14 Mid-Year Accomplishments:**

*The Massachusetts Legislature began its two-year session in January 2013. The second annual session began in January 2014. The following bills of importance to MWRA passed during the first half of the legislative session:*

***Chapter 113 of the Acts of 2013 – SB1837 : An Act authorizing the Division of Capital Asset Management and Maintenance to grant an easement upon land of the commonwealth located in the Town of Ware to the Massachusetts Water Resources Authority.*** *Passage of this bill (Article 97) formalized MWRA easement rights granted by the Metropolitan District Commission decades ago for land associated with MWRA's existing Ware Disinfection Facility that serves the Authority's Chicopee Valley Aqueduct (CVA) communities of Chicopee, Wilbraham and portions of South Hadley.*

***Chapter 52 of the Acts of 2013 – HB3570: An Act authorizing the Massachusetts Water Resources Authority to dispose of real property located in the City of Quincy and to grant an easement upon real property of the Massachusetts Water Resources Authority located in the City of Quincy.*** *Passage of this bill approved a mutually agreed upon exchange of property and various easements in Quincy between MWRA and March Fourth LLC, enabling the more efficient operation of the Fore River Railroad by MWRA.*

*Chapter 38 of the Acts of 2013 – An Act making appropriations for the fiscal year for the maintenance of the Departments, Boards, Commissions, Institutions and certain activities of the Commonwealth for interest, sinking fund and serial bond requirements and for certain permanent improvements. Section 199 (a) authorized the Commissioner of Capital Asset Management and Maintenance, in consultation with MWRA, to convey to the Massachusetts Port Authority a parcel of land in East Boston for the Greenway Connector.*

**Budget Highlights:**

- The FY15 Proposed Budget is \$1.1 million, a decrease of \$83,000 or 6.9% from the FY14 Budget.
- \$1.1 million for **Wages and Salaries**, a decrease of \$83,000 or 7.3% from the FY14 Budget. The proposed budget includes funding for 12 positions, one position less than funded in FY14.
- \$22,000 for **Other Materials** is level funded from the FY14 Budget.
- \$49,000 for **Other Services**, primarily level funded with the FY14 Budget. This budget supports the printing of printing needs of the department, including the Annual Report.



Operations Division  
Budget

## OPERATIONS DIVISION

FY15 Proposed Current Expense Budget OPERATIONS DIVISION						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 69,926,817	\$ 70,614,655	\$ 73,963,890	\$ 75,724,251	\$ 1,760,361	2.4%
OVERTIME	3,046,845	3,473,493	3,522,621	3,558,196	35,575	1.0%
FRINGE BENEFITS	54,278	58,593	61,135	61,270	135	0.2%
CHEMICALS	9,271,529	10,139,257	10,671,224	10,667,110	(4,114)	0.0%
UTILITIES	22,666,107	22,960,065	22,653,178	23,248,916	595,738	2.6%
MAINTENANCE	23,609,567	23,407,709	23,913,315	24,031,753	118,438	0.5%
TRAINING & MEETINGS	84,048	107,585	122,900	140,000	17,100	13.9%
PROFESSIONAL SERVICES	2,135,541	2,160,077	2,723,673	2,964,535	240,862	8.8%
OTHER MATERIALS	4,478,030	5,766,978	4,699,047	4,537,977	(161,070)	-3.4%
OTHER SERVICES	19,437,631	18,629,541	18,511,526	18,770,604	259,078	1.4%
<b>TOTAL</b>	<b>\$ 154,710,393</b>	<b>\$ 157,317,953</b>	<b>\$ 160,842,509</b>	<b>\$ 163,704,612</b>	<b>\$ 2,862,103</b>	<b>1.8%</b>

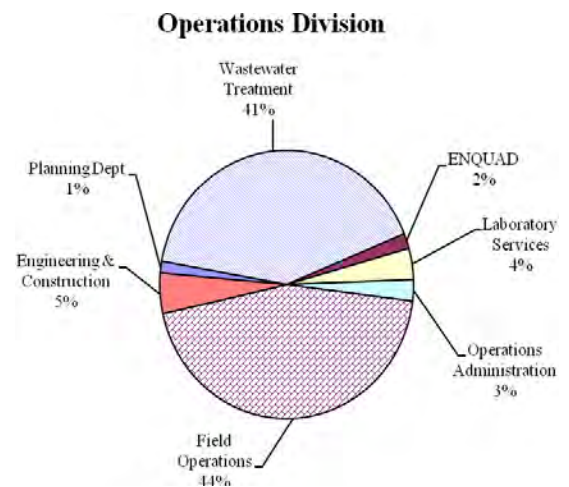
FY15 Proposed Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
OPERATIONS ADMINISTRATION	\$ 2,880,946	\$ 3,749,219	\$ 3,450,501	\$ 4,167,501	\$ 717,000	20.8%
WASTEWATER TREATMENT	64,934,920	65,225,078	65,820,137	67,225,433	1,405,296	2.1%
FIELD OPERATIONS	69,117,281	70,781,717	72,090,881	72,857,736	766,855	1.1%
LABORATORY SERVICES	5,312,800	5,563,606	6,057,337	6,157,426	100,089	1.7%
ENQUAD	2,860,161	2,660,834	3,000,790	2,978,834	(21,956)	-0.7%
ENGINEERING & CONSTRUCTION	7,569,131	7,273,287	8,283,008	8,072,880	(210,128)	-2.5%
PLANNING DEPARTMENT	2,035,154	2,064,211	2,139,855	2,244,802	104,947	4.9%
<b>TOTAL</b>	<b>\$ 154,710,393</b>	<b>\$ 157,317,952</b>	<b>\$ 160,842,509</b>	<b>\$ 163,704,612</b>	<b>\$ 2,862,103</b>	<b>1.8%</b>

The **Operations Division** provides wastewater and water system services including operations, maintenance, and treatment; environmental monitoring and laboratory testing and analyses; and engineering, construction, planning, and administration. The Operations Division's departments are described below:

The **Wastewater Treatment Department** is 41% of the division's budget. The department operates and maintains the Deer Island Treatment Plant (DITP), Clinton Wastewater Treatment Plant, and Residuals Processing Facility (pelletization plant) at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)** is 44% of the division's budget. The department manages the wastewater pretreatment, water treatment, and wastewater and water distribution functions, including the Carroll Water Treatment Plant (CWTP). This department is responsible for operating, maintaining, and metering both systems.

The **Planning and Coordination Department** is 1% of the division's budget. The department provides planning, advocacy, and decision support services on policy, public health, regulatory, and operations matters regarding MWRA's potable and wastewater systems.



The **Engineering and Construction Department** is 5% of the division's budget. This department provides the following services to support the maintenance, repair, and rehabilitation of the wastewater and water systems: in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance. The department also oversees implementation of the Combined Sewer Overflow (CSO) plan.

The **Environmental Quality Department (EnQuad)** is 2% of the division's budget. This department manages and reports on the monitoring of Boston Harbor and Massachusetts Bay water quality. The department also oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** is 4% of the division's budget. This department supports various client groups in the Operations Division, the Department of Conservation and Recreation (DCR), and the MWRA member communities; providing field sampling, laboratory testing, and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** is 3% of the division's budget. This department provides oversight and general management support in the areas of finance, contract administration, and personnel. The Operations Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

#### **FY15 Goals:**

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and National Pollutant Discharge Elimination System (NPDES) permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.

#### **FY15 Initiatives:**

##### **Operations, Energy, and New Facilities Start-ups:**

- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system, including the projects noted in MWRA's Memorandum of Understanding with NSTAR. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Self-generate ~28% of the Deer Island Treatment Plant's (DITP) required power through optimization of power generation assets, including the wind turbines and the Steam Turbine Generation (STG) back pressure system.
- Continue start-up of new ultraviolet disinfection treatment process for MWRA's potable water system at the Carroll Water Treatment Plant and Quabbin Disinfection Facility.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.

## **Engineering & Construction:**

- Notice to Proceed for numerous contracts including the following major projects:
  - Water System
    - Long-Term Redundancy Wachusett Aqueduct Construction
    - Weston Aqueduct Supply Mains – Sect 36/W11/S9 – All Valve
    - NHS Revere & Malden Pipe – Sect 53 Connections Design CA/RI
  - Wastewater System
    - Facility Asset Protection Alewife Brook Pump Station Rehab – Construction
    - DITP Asset Protection Sodium Hypo Pipe Replacement - Construction
    - DITP Asset Protection Winthrop Terminal Facility VFD Replacement - Construction
    - Facility Asset Protection Cottage Farm Design/CA/RI
    - Facility Asset Protection Chelsea Screenhouse Upgrades
    - Facility Asset Protection Caruso Pump Station Improvements – Construction
    - DITP Asset Protection Cryogenic Plant – Equipment Replace – Design
    - DITP Asset Protection Future Misc. VFD Replacements – Design
    - Facility Asset Protection Prison Point Design/CA/RI
- Substantially complete numerous CIP design and construction phases including the following:
  - Water System
    - Spot Pond Storage Facility Design/ Build
    - Metro West Tunnel Hultman Interconnection– Final Design/CA/I
    - Metro West Tunnel Hultman Interconnection – RI Services
    - Quabbin Water Treatment Plant UVWTP - Construction
    - Carroll Water Treatment Plant CWTP Ultraviolet Disinfection – Des/ESDC/R
  - Wastewater System
    - CSO Program Brookline Sewer Separation Design/CS/RI
    - Facility Asset Protection NI Electricity & Grit/Screens Conveyance - Construction
    - DITP Asset Protection Centrifuge Backdrive Replacement
    - DITP Asset Protection Cryo Chiller Replacement
    - DITP Asset Protection Digester Sludge Pump Replacement Construction
    - DITP Asset Protection TPP Boiler Control Replacement

## **Maintenance:**

- Optimize staff resources, overtime, service contracts, and as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs; Zurn boiler maintenance and repairs; electrical system maintenance; motor overhauls; HVAC units replacement; gas compressor actuator valve rebuilds; and critical equipment maintenance.
- Work on numerous projects in Field Operations including meter inspection and repairs; facility repainting and coating repairs; manhole rehabilitation; heating system conversion at Framingham Pump Station; invasives control in the water reservoirs; dam inspections and tree clearing; and water tank inspections.

### **Environmental:**

- Plan for implementation of requirements of the new National Pollutant Discharge Elimination System (NPDES) Permits for DITP (assume new permit is issued as of January 2015) and Clinton Wastewater Treatment Plant (assume new permit in effect for all of FY15).
- Continue work on other harbor and outfall monitoring initiatives including: calculating revised thresholds, working with the Department of Conservation and Recreation to implement appropriate beach management practices in South Boston, and improving instrumentation on National Oceanic and Atmospheric Administration's (NOAA's) weather buoy.
- Review and revise the TRAC permit fee structure.
- Plan for the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits and commence the work after the Environmental Protection Agency (EPA) issues the new NPDES permits.
- Conduct invasive species removal and monitoring at water reservoirs.
- Implement and optimize changes in fluoride dosing in the water system to comply with revised regulations.

### **FY14 Mid-Year Accomplishments:**

#### **Operations, Energy, and New Facilities Start-ups:**

- Procured multi-year electricity supply contracts with two vendors for MWRA facilities.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals for the water and wastewater system facilities. Chemicals procured included sodium hypochlorite, hydrofluosilicic acid, liquid oxygen, sodium hydroxide, sodium bisulfite, and polymer.
- Received revenue for energy generated at numerous facilities including the following: hydroelectric \$509,000 from Oakdale Station, \$124,000 from Cosgrove Station, and \$19,000 from the Loring Road Pump Station; wind of \$149,000 from turbine located at the DeLauri Pump Station; and solar of \$56,000 from Carroll Water Treatment Plant.
- Continue to leverage MWRA's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$1.4 million in revenue for the first six months of FY14. Deer Island also self-generated ~22% of the plant's total required power during that period.
- Processed 100 average tons per day of sludge at the Pelletization Plant and disposed of 2,832 tons of grit and screenings through a contracted vendor

#### **Maintenance:**

- The Operations Division spent \$10.9 million thru December on maintenance of which \$5.0 million was for materials and \$5.9 million was for services.
- Procured and implemented numerous contracts for maintenance services, including for the following; DITP thermal and hydro-power plant, DITP wind turbine, janitorial services, electrical system monitoring, instrumentation monitoring and repair, boiler and water heating services, fire protection sprinkler system maintenance, continuous emission monitoring system equipment, and elevators.

- Procured and implemented numerous contracts for maintenance projects including: manhole frames and covers replacement, emergency repair of metropolitan sewer section 155 siphon, installation of energy efficient LED extension lighting at the Southborough facility, and installation of insulation on water pipes at several water pump stations.
- Completed numerous maintenance projects including excavation and repair of several water pipeline leaks; modifications to a pump at the Squantum Pump Station; repair of the sewer line at the Gillis Pump Station; and repair of the radiator in Nut Island's generator.
- In the water system, exercised 399 and replaced 7 mainline valves, and exercised 227 and replaced 8 blow-off valves.
- In the wastewater system, inspected 12.05 miles and cleaned 10 miles of MWRA pipeline. Also inspected 299 structures and rehabilitated 82 manholes.

**Engineering, Construction, and Planning:**

- Notice to Proceed for numerous contracts including the following major projects:
  - Water System
    - Weston Aqueduct Supply Mains WASM3 – MEPA/ Design/ CA/ RI
  - Wastewater System
    - DITP Asset Prot. – Scum Skimmer Replacement
    - Facility Asset Protection PP/CF Engine Pumps Gearbox
    - Facility Asset Protection NI Electric & Grit/Sreenings Conveyance
- Substantially completed numerous projects including the following:
  - Water System
    - Weston Aqueduct Supply Mains Watertown Sect Rehab
    - Quabbin Transmission System – Oakdale Phase 1A Electrical – Construction
  - Wastewater System
    - DITP Asset Protection – Expansion Joint Repair – Construction 2
    - DITP Asset Protection – Primary & Secondary Clarifier Rehab - Design
    - DITP Asset Protection – Clarifier W3H Flush System
    - CSO Program Brookline Sewer Separation Construction

**Environmental:**

- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 111 inspections, 142 monitoring events, and 306 sampling of connections. This department also issued or renewed 233 permits to Significant Industrial Users (SIUs) and non-SIUs.
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY13 in October 2013.
- The TRAC Department continued work on the review of local limits at the Clinton Wastewater Treatment Plant as required under the NPDES permit renewal process.
- At DITP, treated 99.7% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during the first six months of FY14.



- EnQuad carried out permit-required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish and CSO receiving water quality. The department finalized six technical reports, made monitoring results available on its website, and sent reports to government regulators, the Outfall Monitoring Science Advisory Panel and interested members of the public.
- Met all water quality and treatment standards for giardia in the drinking water system during the first six months of FY14. Also, maximum turbidity results at Quabbin and Wachusett were within DEP standards.
- During the first six months of FY14, the Department of Laboratory Services performed 136,360 tests including the annual Lead and Copper Rule testing and Massachusetts Bay water column testing for the Harbor and Outfall Monitoring program.

### **Budget Highlights:**

- The FY15 Proposed Budget is \$163.7 million, which is \$2.9 million or 1.8%, more than the FY14 Budget.
- Line items that increase from the FY14 Budget include:
  - The FY15 Proposed Budget of \$75.7 million for **Wages and Salaries** is an increase of \$1.8 million or 2.4 % from the FY14 Budget, primarily due to projected cost of living adjustments increases; three more funded positions in FY15 than in FY14; and increase in stand-by pay. The FY15 Proposed Budget funds 936 filled positions on average during the year versus 933 funded in FY14. The budget also includes \$803,000 for Stand-by Pay to ensure staffing availability and response during emergencies, \$239,000 for Interns to assist with peak workload and special initiatives, and \$203,000 for Temporary Employees.
  - The FY15 Proposed Budget of \$23.2 million for **Utilities** includes \$16.6 million for electricity, \$3.8 million for diesel fuel, \$2.1 million for water, and \$526,000 for natural gas. The increase of \$596,000 or 2.6% from the FY14 Budget is primarily due to projected price changes for electricity based on market trends; additional diesel fuel purchases at DITP based on inventory projections for FY14; and increases in MWRA's water wholesale prices at DITP. The utility budget by department is \$13.6 million for Deer Island Treatment Plant, \$5.1 million for Wastewater Operations, \$3.7 million for Water Operations, \$549,000 for the Chelsea Office facilities, and \$229,000 for the Clinton Wastewater Treatment Plant.
  - The FY15 Proposed Budget for **Other Services** is \$18.8 million, including \$14.0 million for sludge pelletization; \$1.9 million for space leases and rentals, including the Chelsea facility; \$852,000 for grit and screenings removal and disposal; \$607,000 for telephones; \$416,000 for police details; and \$321,000 for memberships, dues, and subscriptions. The FY15 Proposed Budget is \$259,000 or 1.4% more than the FY14 Budget primarily due to increases for contractual inflation for sludge pelletization services; base rent and property tax increases for the Chelsea facility lease; and dues for numerous membership organizations.
  - The FY15 Proposed Budget for **Professional Services** is \$3.0 million, including \$1.5 million for lab and testing services; \$910,000 for engineering services; and \$494,000 for other services. Major items in the budget include \$1.5 million for Harbor and Outfall Monitoring; \$375,000 for as-needed engineering services to support CEB-funded projects; \$250,000 for the FY15 portion of the DI Local Limits study as required by the new NPDES permit; \$155,000 for outsourced testing by the Central Laboratory; \$150,000 for MWRA's FY15 contribution to the Mystic River Modeling project; and \$140,000 for analysis and inspection of MWRA's dams. The FY15 Proposed Budget is \$241,000 or 8.8% more than the FY14 Budget primarily to the addition of funds for the Local Limits and Mystic River Modeling projects.
  - The FY15 Proposed Budget for **Maintenance** is \$24.0 million, a net increase of \$118,000 or 0.5% from the FY14 Budget primarily due to changes in project priorities from year to year. The FY15 Proposed Budget

includes \$12.4 million for services and \$11.6 million for materials. By maintenance area, the largest categories of spending for materials and services include \$10.9 million for plant and machinery; \$5.0 million for building and grounds; \$2.7 million for electrical; \$2.6 million for specialized equipment, \$1.5 million for pipeline; and \$1.1 million for HVAC systems. The budget also funds special initiatives such as energy conservation projects in the Field Operations Department facilities; invasive plant control in the water reservoirs; and easement clearing on MWRA's aqueducts.

- The FY15 Proposed Budget of \$3.6 million for **Overtime** is a net increase of \$36,000 or 1.0% from the FY14 Budget primarily due to the inclusion of overtime for NPDES-related sampling at the Carroll Water Treatment Plant. The FY15 Proposed Budget is sized based on multi-year spending patterns. The components of the budget include \$1.8 million for emergencies and wet weather staffing; \$959,000 for operational coverage; and \$790,000 for planned maintenance and other initiatives that must be completed at night or on weekends. The budget continues to incorporate reductions in overtime for coverage due to changes in staffing requirements and it also reflects managements' successful efforts to date to control spending for non-emergency overtime.
- The FY15 Proposed Budget of \$140,000 for **Training and Meetings** covers specialized training, attendance at industry conferences, and site visits to other plants. The FY15 Proposed Budget funds training for topics such as spill response and boom deployment; UV treatment; spill prevention and control; belt laser alignment; and cyber security. The FY15 Proposed Budget is \$17,000 or 13.9% higher than the FY14 Budget primarily due to the inclusion of training funds for spill response, prevention, and control.
- Line items that decrease from FY14 Budget include:
  - The FY15 Proposed Budget of \$4.5 million for **Other Materials** includes \$1.7 million for Vehicle Replacements; \$803,000 for Lab and Testing Supplies; \$500,000 for Vehicle Expenses (gas, tolls); \$388,000 for Health and Safety Supplies; \$382,000 for Equipment and Furniture; and \$321,000 for Work Clothes. The decrease of \$161,000 or 3.4% from the FY14 Budget is primarily due to less funding in FY15 than in FY14 for furniture and carpet replacement at the Chelsea office facility.
  - The FY15 Proposed Budget of \$10.7 million for **Chemicals** includes \$6.3 million for disinfection and treatment in the water system and \$4.4 million for disinfection, treatment, and odor control in the wastewater system. The budget includes \$3.7 million for soda ash; \$2.4 million for sodium hypochlorite; \$884,000 for ferric chloride; \$756,000 for sodium bisulfite; \$612,000 for liquid oxygen; and \$541,000 for hydrofluosilicic acid. The FY15 Proposed Budget is \$4,000 less than the FY14 Budget due to the net effect of price and usage decreases based on recent trends, contracts, and market projections; offset by an increase of \$650,000 for chemicals at DITP for enterococcus treatment as expected to be required by the new NPDES permit.

**OPERATIONS ADMINISTRATION**

FY15 Proposed Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,905,682	\$ 1,915,020	\$ 1,514,411	\$ 2,003,358	\$ 488,947	32.3%
OVERTIME	101	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
MAINTENANCE	(342)	-	-	-	-	-
TRAINING & MEETINGS	6,812	1,010	5,200	4,700	(500)	-9.6%
PROFESSIONAL SERVICES	9,740	166,309	30,000	205,000	175,000	583.3%
OTHER MATERIALS	761,665	1,450,596	1,702,251	1,702,251	-	0.0%
OTHER SERVICES	197,288	216,284	198,639	252,192	53,553	27.0%
<b>TOTAL</b>	<b>\$ 2,880,946</b>	<b>\$ 3,749,219</b>	<b>\$ 3,450,501</b>	<b>\$ 4,167,501</b>	<b>\$ 717,000</b>	<b>20.8%</b>

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer; the Office of the Deputy Chief Operating Officer of Program, Policy and Planning; and division-level support staff. The department’s primary goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: administration, labor relations, finance, contract administration, and general management.

**Budget Highlights:**

- The FY15 Proposed Budget is \$4.2 million, an increase of \$717,000 or 20.8% from the FY14 Budget.
- \$2.0 million for **Wages and Salaries**, an increase of \$489,000 or 32.3% from the FY14 Budget mainly due to projected cost of living adjustments and removal of FY14 division-wide vacancy adjustment equivalent to 7 positions.
- \$4,700 for **Training & Meetings**, a decrease of \$500 or 9.6% from the FY14 Budget.
- \$205,000 for **Professional Services**, an increase of \$175,000 or 583.3%, from the FY14 Budget. The increase is primarily associated with a potential MWRA contribution to the Mystic River Watershed Association for a multi-year water quality modeling project. The overall project is estimated at \$400,000, with \$150,000 spending projection in FY15. This project is contingent upon funding participation of other parties and Board approval. Additionally, this line item covers energy consulting services to support procurements and evaluation of projects.
- \$1.7 million for **Other Materials**, which is level funded with the FY14 Budget. Funding in this line item is mostly for the replacement of older vehicles in MWRA’s fleet. At an average cost of \$30k -\$35k per vehicle, the budget supports replacement of 48-56 vehicles which is approximately 10%-11% of the active fleet.
- \$252,000 for **Other Services**, an increase of \$54,000 or 27.0%, from the FY14 Budget. The budget contains Authority-wide memberships including the Water Research Foundation (WRF; formerly AWWARF), National Association of Clean Water Agencies (NACWA), Association of Metropolitan Water Agencies (AMWA), American Water works Association (AWWA), and the Boston Harbor Association (BHA) marine debris program. The funding change is due to a \$10,000 increase to NACWA dues; a new \$10,000 membership with the Mystic River Watershed Association; and a \$30,000 increase to MWRA’s partial contribution to a WRF membership, bringing the total contribution to \$120,000.

**WASTEWATER TREATMENT**

FY15 Proposed Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 17,557,331	\$ 17,825,908	\$ 18,733,595	\$ 18,845,173	\$ 111,578	0.6%
OVERTIME	764,150	866,545	1,064,133	1,069,708	5,575	0.5%
FRINGE BENEFITS	15,150	16,082	15,330	16,375	1,045	6.8%
CHEMICALS	2,773,772	3,397,825	3,481,960	4,011,700	529,740	15.2%
UTILITIES	13,537,848	13,673,883	13,206,619	13,814,857	608,238	4.6%
MAINTENANCE	13,672,935	13,774,495	13,453,528	13,578,288	124,760	0.9%
TRAINING & MEETINGS	5,439	7,907	13,500	14,900	1,400	10.4%
PROFESSIONAL SERVICES	111,911	76,076	173,200	208,200	35,000	20.2%
OTHER MATERIALS	525,659	541,990	558,640	518,600	(40,040)	-7.2%
OTHER SERVICES	15,970,725	15,044,367	15,119,632	15,147,632	28,000	0.2%
<b>TOTAL</b>	<b>\$ 64,934,920</b>	<b>\$ 65,225,078</b>	<b>\$ 65,820,137</b>	<b>\$ 67,225,433</b>	<b>\$ 1,405,296</b>	<b>2.1%</b>

FY15 Proposed Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
DEER ISLAND	\$ 46,886,553	\$ 47,795,290	\$ 48,614,548	\$ 49,816,958	\$ 1,202,410	2.5%
RESIDUALS	16,531,865	15,906,759	15,574,057	15,730,843	156,786	1.0%
CLINTON	1,516,502	1,523,029	1,631,532	1,677,632	46,100	2.8%
<b>TOTAL</b>	<b>\$ 64,934,920</b>	<b>\$ 65,225,078</b>	<b>\$ 65,820,137</b>	<b>\$ 67,225,433</b>	<b>\$ 1,405,296</b>	<b>2.1%</b>

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 41.0% of the Operations Division’s FY15 Proposed Budget and 30.8% of MWRA’s FY15 Proposed Direct Expense Budget.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where large objects are screened out before the influent is transmitted to Deer Island Treatment Plant through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River Staging Area (FRSA). Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

**DEER ISLAND TREATMENT PLANT**

FY15 Proposed Current Expense Budget DEER ISLAND TREATMENT PLANT						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 16,822,253	\$ 17,105,459	\$ 17,947,200	\$ 18,100,096	\$ 152,896	0.9%
OVERTIME	717,421	809,580	1,011,633	1,011,708	75	0.0%
FRINGE BENEFITS	14,465	15,300	14,330	15,374	1,044	7.3%
CHEMICALS	2,559,694	3,107,477	3,190,008	3,629,955	439,947	13.8%
UTILITIES	13,270,049	13,452,849	12,966,045	13,585,695	619,650	4.8%
MAINTENANCE	12,504,338	12,567,714	12,577,742	12,673,665	95,923	0.8%
TRAINING & MEETINGS	5,439	7,907	9,800	11,200	1,400	14.3%
PROFESSIONAL SERVICES	110,273	74,510	170,500	170,500	-	0.0%
OTHER MATERIALS	385,968	382,007	409,900	370,600	(39,300)	-9.6%
OTHER SERVICES	496,653	272,487	317,390	248,165	(69,225)	-21.8%
<b>TOTAL</b>	<b>\$ 46,886,553</b>	<b>\$ 47,795,290</b>	<b>\$ 48,614,548</b>	<b>\$ 49,816,958</b>	<b>\$ 1,202,410</b>	<b>2.5%</b>

**Program Description and Goals:**

The **Deer Island Treatment Plant** budget accounts for 30% of the Operations Division’s FY15 Proposed Budget. DITP has a peak primary treatment capacity of 1.27 billion gallons per day (bgd) and peak secondary treatment capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant.

North system flows pass through grit channels and bar screens at the headworks that remove grit and screenings for disposal in an off-island landfill. South system flows are pre-treated for grit at Nut Island and the Braintree-Weymouth Intermediate Pump Station. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remain in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. Approximately 130 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge from primary and scum from both primary and secondary treatment are thickened in gravity thickeners. Sludge from secondary treatment is thickened in centrifuges. Polymer is used in the secondary sludge thickening process to increase its efficiency. Digestion occurs in the egg-shaped anaerobic digesters at the Deer Island Treatment Plant. There are a total of 12 digesters, each 90 feet in diameter and approximately 140 feet tall (128 ft liquid level). Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of fuel oil for heating and purchased energy. Digested sludge is pumped through the Nut Island inter-island tunnel and Braintree-Weymouth extension tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

## **Organizational Structure:**

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations staff manages the day-to-day operation of plant processing units, performs minor preventative maintenance activities, and oversees plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manages and operates the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 megawatts of emergency electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, and regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improves the efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the Deer Island Treatment Plant (DITP) community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

## **Operating Assumptions**

Deer Island's FY15 Proposed Budget assumes treatment of an average flow of 359 mgd based on twelve years of historical data. The projected quantity of digested sludge to be pumped to FRSA (TSS basis) is 104 TPD. This is based on data from the seven years after the discontinuation of the DSL centrifuges and the start-up of the Braintree-Weymouth tunnel. It also accounts for recent improvements to digestion rates as a result of equipment modifications and the estimated impact of the pilot co-digestion project.

Deer Island's FY15 Proposed Budget accounts for the impact of self-generation of electricity from the steam turbine generators, combustion turbine generators, hydroelectric generators, wind turbine generators, and photovoltaic panels. In total, these assets will provide approximately 28% of the total energy requirements.

Deer Island continues to comply with the conditions of the current National Pollutant Discharge Elimination System (NPDES) Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from the Environmental Protection Agency (EPA), Deer Island's FY15 Proposed Budget only assumes a new permit will be in effect for the last six months of FY15. When the new permit is issued, it is anticipated that Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with the new regulations.

### **Budget Highlights:**

- The FY15 Proposed Budget is \$49.8 million, an increase of \$1.2 million or 2.5%, from the FY14 Budget.
- \$18.1 million for **Wages and Salaries**, an increase of \$153,000 or 0.9%, over the FY14 Budget primarily due to projected cost of living adjustments. The FY15 Proposed Budget funds on average 230 filled permanent positions and is equal to the same number funded in the FY14 Budget. The FY15 Proposed Budget also includes \$194,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies, \$60,000 for interns and \$56,000 for one contract employee.
- \$1.0 million for **Overtime**, which is level funded with the FY14 Budget. The FY15 Proposed Budget is based on historical trends and supports overtime required for operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections).
- \$3.6 million for **Chemicals**, an increase of \$440,000 or 13.8%, from the FY14 Budget. The FY15 Proposed Budget reflects management's expectation that a new NPDES permit will only be in effect for the last six month of FY15. The budget includes \$1.2 million for sodium hypochlorite, \$808,000 for ferric chloride, \$302,000 for polymer, \$314,000 for activated carbon, and \$529,000 for sodium bisulfite. The increase from FY14 to FY15 is primarily due to the inclusion of six months impact of a NPDES Permit, offset by a projected net decrease in chemical prices.
- \$13.6 million for **Utilities**, an increase of \$620,000 or 4.8% from the FY14 Budget mainly due to a higher projected electricity pricing and increased diesel fuel volume. The FY15 Proposed Budget includes \$10.1 million for electricity, \$1.9 million for diesel fuel, and \$1.6 million for water. The FY15 Proposed Budget reflects the average of three years of actual data for power usage and self-generation. The FY15 Proposed Budget also reflects revised self-generation estimates for the new back pressure steam turbine generator (STG), based on FY13 actual output.
- \$12.7 million for **Maintenance**, an increase of \$96,000 or 0.8%, from the FY14 Budget. The FY15 Proposed Budget includes \$5.9 million for materials and \$6.8 million for services. Of the total, \$7.8 million or 61% is for plant and machinery services and materials, \$2.0 million is for electrical system maintenance, and \$1.7 million is for building and grounds work.
- \$171,000 for **Professional Services**, which is level funded with the FY14 Budget. The budget includes \$105,000 for as-needed engineering services to support priority maintenance projects in FY15, \$50,000 for a permit-required, annual beach nourishment study, and \$16,000 for lab and testing and analysis.
- \$371,000 for **Other Materials**, a decrease of \$39,000 or 9.6% from the FY14 Budget. The FY15 Proposed Budget includes \$126,000 for health and safety materials, \$98,000 for work clothes, and \$68,000 for vehicles expenses (tolls, mileage, and gas).
- \$248,000 for **Other Services**, a decrease of \$69,000 or 21.8% from the FY14 Budget. The FY15 Proposed Budget includes \$74,000 for permit fees, \$62,000 for hazardous safety services, \$36,000 for telephones, \$34,000 for membership dues and subscriptions, \$16,000 for printing, and \$15,000 for freight charges.

**RESIDUALS MANAGEMENT**

<b>FY15 Proposed Current Expense Budget RESIDUALS MANAGEMENT PROGRAM</b>						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 113,188	\$ 116,333	\$ 116,915	\$ 119,866	\$ 2,951	2.5%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
MAINTENANCE	965,977	1,021,639	673,847	698,083	24,236	3.6%
TRAINING & MEETINGS	-	-	3,400	3,400	-	0.0%
PROFESSIONAL SERVICES	-	-	1,000	36,000	35,000	3500.0%
OTHER MATERIALS	-	12,079	100	100	-	0.0%
OTHER SERVICES	15,452,700	14,756,708	14,778,795	14,873,394	94,599	0.6%
<b>TOTAL</b>	<b>\$ 16,531,865</b>	<b>\$ 15,906,759</b>	<b>\$ 15,574,057</b>	<b>\$ 15,730,843</b>	<b>\$ 156,786</b>	<b>1.0%</b>

**Program Description and Goals:**

The **Residuals Management Program** manages the processing and disposal of approximately 101-110 dry tons per day (on average per year) total suspended solids (TSS) of sludge from the anaerobic digestion process at Deer Island Treatment Plant, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001 and will expire on December 31, 2015. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

A recently completed third-party independent condition assessment of the NEFCo facility noted that the facility was in excellent condition and recommended only minor modifications to several control system devices.

- The proposed budget is based on 104 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth tunnel through FY13, discounted to reflect recent improvements in digestion as a result of equipment modifications.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings, and scum screenings.

**Budget Highlights:**

- The FY15 Proposed Budget is \$15.7 million, an increase of \$157,000 or 1.0%, from the FY14 Budget.
- \$120,000 for **Wages and Salaries**, an increase of \$3,000 or 2.5%, as compared with the FY14 Budget mainly due to projected cost of living adjustments. This line item funds one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, Audit, and Operations Administration.



- \$698,000 for **Maintenance**, an increase of \$24,000 or 3.6%, from the FY14 Budget. The funding supports the capital repair, replacement, and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The change from FY14 to FY15 is due to differences in the base amount in each calendar year as included in the approved, contractual maintenance schedule established at the time of the contract award. The FY15 Proposed Budget also reflects adjustments for current inflation indices.
- \$36,000 for **Professional Services** to cover the cost of biannual, permit-required, stack testing.
- \$14.9 million for **Other Services**, an increase of \$95,000 or 0.6% from the FY14 Budget. The FY15 Proposed Budget primarily funds the **Sludge Pelletization** portion of the NEFCo contract. The FY15 Budget includes \$14.0 million for sludge, a \$164,000 increase as compared to the FY14 Budget due to an increase in the projected inflation rates for natural gas, labor, and materials; offset by a decrease to the inflation estimate for electricity based on current indices. Projected tonnage remains the same at 104 TPD. In addition, this line item also covers Grit and Screenings disposal of \$852,000, which is \$51,000 less than the FY14 Budget due to lower scum quantity estimates based on actual experience during DI's clarifier modification project.

**CLINTON WASTEWATER TREATMENT PLANT**

FY15 Proposed Current Expense Budget CLINTON WASTEWATER TREATMENT PROGRAM						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 621,889	\$ 604,116	\$ 669,480	\$ 625,211	\$ (44,269)	-6.6%
OVERTIME	46,728	56,965	52,500	58,000	5,500	10.5%
FRINGE BENEFITS	685	782	1,000	1,000	-	0.0%
CHEMICALS	214,078	290,347	291,951	381,745	89,794	30.8%
UTILITIES	267,800	221,034	240,574	229,163	(11,411)	-4.7%
MAINTENANCE	202,620	185,143	201,940	206,540	4,600	2.3%
TRAINING & MEETINGS	-	-	300	300	-	0.0%
PROFESSIONAL SERVICES	1,638	1,566	1,700	1,700	-	0.0%
OTHER MATERIALS	139,691	147,904	148,640	147,900	(740)	-0.5%
OTHER SERVICES	21,373	15,172	23,447	26,073	2,626	11.2%
<b>TOTAL</b>	<b>\$ 1,516,502</b>	<b>\$ 1,523,029</b>	<b>\$ 1,631,532</b>	<b>\$ 1,677,632</b>	<b>\$ 46,100</b>	<b>2.8%</b>

**Program Description and Goals:**

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, were completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

The FY15 Proposed Budget reflects the second full year of operation of the Clinton aeration system efficiency improvements and redundant pumping at the influent and intermediate lift stations. These improvements were completed in calendar year 2013. Staff commenced the projects based on a consultant study that recommended installing fine bubble diffusers in three of the six secondary aeration tanks and removing the existing mechanical mixers to obtain a better oxygen transfer rate while reducing electricity consumption. In FY12, the project scope was expanded to include the installation of four permanent submersible auxiliary pumps to increase pumping capacity during high flow conditions in the plant and also the installation of SCADA to control the system, collect and store data, and visually monitor the processes. Further, the new submersible pumps are energy efficient and will significantly reduce the plant's energy consumption (approximate savings of \$35,000 per year). National Grid allotted a grant for \$177,000 for this work.

The FY15 Proposed Budget also assumes a full year of the new NPDES permit which affects chemical usage. Chemical usage has also changed due to better mixing and oxygen transfers as a result of the improvements in aeration tanks. This requires a significant increase in Soda Ash, for higher alkalinity, to counteract the biological activity caused by the oxygen.

## **Budget Highlights:**

- The FY15 Proposed Budget is \$1.7 million, an increase of \$46,000 or 2.8% from the FY14 Budget.
- \$625,000 for **Wages and Salaries**, a decrease of \$44,000, or 6.6 % from the FY14 Budget. The FY15 Proposed Budget funds seven positions , one less than in the FY14 Budget, and one part-time contract clerical position offset by projected cost of living adjustments. Wages and Salaries represent 37.2% of the total FY15 Proposed Budget.
- \$58,000 for **Overtime**, an increase of \$6,000 or 10.5% from the FY14 Budget. Overtime is used for critical maintenance work and to meet the 24 hour, 7 day per week emergency coverage requirement. The FY15 Proposed Budget also includes incremental OT to cover the operational impacts of planned construction projects.
- \$382,000 for **Chemicals**, an increase of \$90,000 or 30.8% from the FY14 Budget. Chemicals are used for sludge processing, disposal and wastewater treatment. The FY15 Proposed Budget assumes the new NPDES permit will be in effect for the full year. The chemical budget increase is due to expected higher use of Ferric Chloride and Soda Ash. Soda Ash usage estimates are based on trends through FY14. The budget for this chemical increases by \$91,000 from the FY14 Budget due to the improvement in the aeration system which causes better mixing and oxygen transfer, resulting in higher alkalinity and thus more treatment. Ferric Chloride usage increases by 5.0% from the FY14 Budget due to the NPDES permit which will be in effect for the entire year. Chemicals represent 22.7% of the budget.
- \$229,000 for **Utilities**, a decrease of \$11,000 or 4.7% from the FY14 Budget. The FY15 Proposed Budget includes \$155,000 for electricity, \$58,000 for #2 Fuel Oil, and \$17,000 for water. The change from FY14 is primarily due to lower usage for electricity based on recent trends and operational improvements. Utilities represent 13.7% of the FY15 Proposed Budget.
- \$207,000 for **Maintenance**, an increase of \$5,000 or 2.3% increase from the FY14 Budget. The FY15 Proposed Budget includes \$72,000 for major projects based on the most current rolling priority list. The remainder of the budget is for routine materials and services such as grounds keeping and snow removal; electrical repairs; and plumbing. Maintenance represents 12.3% of the FY15 Proposed Budget.
- \$148,000 for **Other Materials**, essentially level funded with the FY14 Budget. The FY15 Proposed Budget for Other Materials includes \$136,000 for clean fill for the landfill operations and \$12,000 for office supplies, health and safety materials, work clothing, and vehicle expenses.
- \$26,000 for **Other Services**, an increase of \$3,000 or 11.2% from the FY14 Budget. The FY15 Proposed Budget funds permit fees, telephones, railroad easements, and rental of a construction trailer.

**FIELD OPERATIONS**

FY15 Proposed Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 35,927,958	\$ 36,361,523	\$ 37,921,216	\$ 38,912,151	\$ 990,935	2.6%
OVERTIME	2,102,678	2,460,544	2,335,282	2,365,282	30,000	1.3%
FRINGE BENEFITS	38,114	41,658	44,105	43,196	(909)	-2.1%
CHEMICALS	6,497,757	6,741,432	7,189,265	6,655,410	(533,855)	-7.4%
UTILITIES	9,111,793	9,263,150	9,426,655	9,411,841	(14,814)	-0.2%
MAINTENANCE	9,743,801	9,374,057	10,135,603	10,167,812	32,209	0.3%
TRAINING & MEETINGS	62,671	83,335	86,800	94,000	7,200	8.3%
PROFESSIONAL SERVICES	507,936	556,814	683,500	915,000	231,500	33.9%
OTHER MATERIALS	2,022,728	2,708,894	1,258,830	1,124,886	(133,944)	-10.6%
OTHER SERVICES	3,101,845	3,190,310	3,009,625	3,168,158	158,533	5.3%
<b>TOTAL</b>	<b>\$ 69,117,281</b>	<b>\$ 70,781,717</b>	<b>\$ 72,090,881</b>	<b>\$ 72,857,736</b>	<b>\$ 766,855</b>	<b>1.1%</b>

FY15 Proposed Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
TOXIC REDUCTION & CONTROL	\$ 3,524,789	\$ 3,344,029	\$ 3,500,740	\$ 3,941,081	\$ 440,341	12.6%
WASTEWATER OPERATIONS	11,877,271	12,223,167	12,530,698	12,460,064	(70,634)	-0.6%
WATER OPERATIONS & MAINT	25,685,781	26,424,382	27,762,546	27,940,465	177,919	0.6%
METRO MAINTENANCE	14,586,284	13,354,827	13,996,658	14,154,352	157,694	1.1%
OPERATIONS SUPPORT	8,201,808	8,599,003	8,960,713	9,104,442	143,729	1.6%
FOD ADMIN	5,241,348	6,836,309	5,339,526	5,257,332	(82,194)	-1.5%
<b>TOTAL</b>	<b>\$ 69,117,281</b>	<b>\$ 70,781,717</b>	<b>\$ 72,090,881</b>	<b>\$ 72,857,736</b>	<b>\$ 766,855</b>	<b>1.1%</b>

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA’s industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

**The Toxic Reduction and Control (TRAC) Department** operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA’s Environmental Protection Agency (EPA) approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (approximately 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (approximately 400 annually). The program tracks more than 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

**Wastewater Operations** operates MWRA’s wastewater transport facilities, including four continuously staffed Headworks facilities; 12 fully automated pumping stations; and seven Combined Sewer Overflow (CSO) facilities which are similarly unstaffed. FY13 was the first full-year of operation of the South Boston CSO facilities. The wastewater system is monitored and controlled from the operations control center (OCC) in MWRA’s Chelsea facility.

**Water Operations and Maintenance** is responsible for the treatment and delivery of approximately 195 million gallons per day (three year average mgd) of water from the Quabbin and Wachusett reservoirs to the community water systems. The water system encompasses a service area from Chicopee in the western part of the state to Lynnfield, Wakefield, Marblehead, Norwood and Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water Treatment Plant, the MetroWest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

**Metropolitan Maintenance** is responsible for the maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintains pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintains a waterworks network of approximately 300 miles of water mains, 4,955 valves, 18 miles of deep rock tunnels, twelve pump stations, eight tunnel shafts, twelve distribution storage tanks, and a wastewater network of 240 miles of wastewater interceptors and appurtenances, twelve pump stations, four headworks, and six CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

**Operations Support** provides technical support to the Field Operations Department (FOD) in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinate all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 179 revenue water meters, 26 master water meters, 187 revenue wastewater meters, and 35 other wastewater monitoring sites. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems.

**FOD Administration** provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

#### **Budget Highlights:**

- The FY15 Proposed Budget is \$72.9 million, an increase of \$767,000 or 1.1% from the FY14 Budget.
- \$38.9 million for **Wages and Salaries**, an increase of \$991,000 or 2.6%, from the FY14 Budget mainly due to projected cost of living adjustment increases and increased funding for the intern program. The Wages and Salaries line item accounts for 53% of the FY15 Proposed Budget and funds 503 positions, one more than budgeted in FY14. Of the remaining budget, \$550,000 is for stand-by pay to ensure support for operational and maintenance needs during wet weather and emergencies and \$112,000 is for interns to provide support in several areas including Operations Engineering, SCADA, and TRAC.
- \$2.4 million for **Overtime**, an increase of \$30,000 or 1.3%, from the FY14 Budget due to higher emergency overtime in western water system operations and SCADA as well as an increase in NPDES related overtime in TRAC. The budget includes \$1.2 million for emergency related overtime; \$609,000 for operational coverage needs, and \$584,000 for planned overtime covering scheduled maintenance and training.

- \$6.6 million for **Chemicals**, of which \$6.3 million is for water treatment and \$371,000 is for wastewater treatment. The FY15 Proposed Budget is \$534,000 or 7.4% lower than the FY14 Budget due to a \$221,000 decrease in Hydrofluosilicic Acid in anticipation of Federally recommended dose changes; \$134,000 decrease in Sodium Bisulfite based on lower use at Carroll Water Treatment Plant due to UV treatment start-up and actual historical use at Wastewater CSOs; a \$114,000 decrease in Liquid Oxygen due to expected lower pricing and in anticipation of reduced usage after start-up of UV disinfection; \$97,000 decrease in Framingham Extension Relief Sewer chemicals (Bioxide and Nitrazyme) as a result of improvements by the Town of Framingham which have lowered the hydrogen sulfide levels in the system; and a \$50,000 decrease in Aqua Ammonia due to contract pricing. Soda Ash increases by \$96,000 principally due to an increase in the contractual price.
- \$9.4 million for **Utilities**, a decrease of \$15,000 or 0.2%, from the FY14 Budget. The FY15 Proposed Budget includes \$6.4 million for electricity, \$2.0 million for diesel fuel, \$526,000 for natural gas, and \$483,000 for water. The decrease is a result of a volume decrease of \$102,000 in natural gas due to delayed conversion of Chelsea Headworks from diesel to natural gas; a total decrease of \$67,000 in electricity due to a combination of operational changes and use of three year averages; and a \$10,000 decrease in propane which is primarily price driven. These decreases are offset by the net effect of a decrease \$139,000 for projected lower prices, offset by a volume increase of \$275,000 primarily due to the delayed fuel conversion at Chelsea Headworks referenced above; \$136,000 increase in diesel fuel costs; and \$29,000 increase in water.
- \$10.2 million for **Maintenance**, an increase of \$32,000 or 0.3%, from the FY14 Budget. The FY15 Proposed Budget includes \$4.1 million in day-to-day needs, \$3.5 million for services, \$2.0 million in major projects, and \$557,000 for energy initiatives. Some of the major projects planned for FY15 include:

Invasives Control - Stillwater Basin	\$210,000
Painting Contract East and West	\$200,000
Roofing Contract East and West	\$200,000
Manhole Rehabilitation Contract	\$180,000
Tree Clearing at Dams -South Dike clearing at the toe	\$100,000
Spare Rotating Assembly for DeLauri Pump Station	\$80,000

- \$94,000 for **Training and Meetings**, an increase of \$7,000 or 8.3%, from the FY14 Budget which covers training required for work duties, health and safety compliance, and job-related licensures and certifications.
- \$915,000 for **Professional Services**, an increase of \$232,000 or 33.9%, from the FY14 Budget, primarily due to the inclusion of a metropolitan Boston Local Limit Study. The FY15 Proposed Budget includes \$780,000 for engineering services, which is made up of \$325,000 for as-needed engineering services to support CEB-funded maintenance projects; \$250,000 for the local limits study; \$140,000 for a multi-year dam safety contract; \$50,000 for a leak detection survey of the water system; and \$15,000 for evaluation of spill prevention, control, and countermeasure plans. Additionally, the Professional Services budget also includes \$60,000 for an annual macrophyte survey at the reservoirs; \$40,000 for energy audits at various facilities; and \$30,000 for quality assurance services for macrophyte harvesting.
- \$1.1 million for **Other Materials**, a decrease of \$134,000 or 10.6%, from the FY14 Budget. The FY15 Proposed Budget includes \$390,000 for vehicle expenses for gas, mileage reimbursements, and tolls; \$240,000 for health and safety supplies, \$214,000 for work clothes; and \$145,000 for lab and testing supplies.
- \$3.2 million for **Other Services**, an increase of \$159,000 or 5.3%, from the FY14 Budget due to increases in costs. The FY15 Proposed Budget includes \$1.9 million for annual lease payments for the Chelsea office building; \$551,000 for telephones, and \$405,000 for police details.

## LABORATORY SERVICES

FY15 Proposed Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 3,983,943	\$ 4,113,753	\$ 4,466,765	\$ 4,567,714	\$ 100,949	2.3%
OVERTIME	67,731	71,746	56,706	56,706	-	0.0%
FRINGE BENEFITS	445	512	1,200	1,200	-	0.0%
UTILITIES	16,464	23,032	19,903	22,217	2,314	11.6%
MAINTENANCE	186,431	252,330	314,818	285,652	(29,166)	-9.3%
TRAINING & MEETINGS	773	141	2,000	2,000	-	0.0%
PROFESSIONAL SERVICES	68,265	130,607	153,423	155,395	1,972	1.3%
OTHER MATERIALS	921,303	889,095	965,556	985,556	20,000	2.1%
OTHER SERVICES	67,445	82,390	76,966	80,986	4,020	5.2%
<b>TOTAL</b>	<b>\$ 5,312,800</b>	<b>\$ 5,563,606</b>	<b>\$ 6,057,337</b>	<b>\$ 6,157,426</b>	<b>\$ 100,089</b>	<b>1.7%</b>

The goal of the **Department of Laboratory Services (DLS)** is to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and National Pollutant Discharge Elimination System (NPDES) permits. The Department supports these functions at five locations: Chelsea, Southboro, Quabbin, the Central Laboratory at the Deer Island Treatment Plant (DITP), and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and process control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, Toxic Reduction and Control (TRAC), and wastewater residuals. DLS also conducts the Boston Harbor monitoring program that involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results for submission to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MDEP).

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity.

### Budget Highlights:

- The FY15 Proposed Budget is \$6.2 million, an increase of \$100,000 or 1.7% from the FY14 Budget.
- \$4.6 million for **Wages and Salaries**, an increase of \$101,000 or 2.3%, from the FY14 Budget. The FY15 Budget funds 55 positions, the same as in FY14. The increase from FY14 is due to projected cost of living adjustments and additional standby pay for the Mobile Lab. The FY15 Proposed Budget also includes \$124,000 for up to four temporary employee positions to cover peak workload and to assist with testing for Harbor and Outfall Monitoring, Carroll Water Treatment Plant special projects, and summer beach monitoring.
- \$22,000 for **Utilities**, an increase of \$2,000 or 11.6%, as compared with the FY14 Budget. This funding covers the purchase of gases and cryogenic liquids used for various laboratory instruments.
- \$286,000 for **Maintenance**, a decrease of \$29,000 or 9.3%, from the FY14 Budget due to less expected spending in FY15 for Laboratory building modifications. The FY15 Proposed Budget includes \$204,000 for equipment service contracts, \$36,000 for harbor monitoring field equipment replacements, \$30,000 for Heating Ventilation Air Conditioning (HVAC) services to annually maintain and certify the fume hoods, and \$15,000 for laboratory modifications.

- \$155,000 for **Professional Services**, which is level funded with the FY14 Budget. Funding in this line item supports laboratory and testing analysis services the department uses to contract out a variety of complex and/or low volume tests. Outside laboratories are used for emergencies, second opinions, capacity constraints, and unavailability of specialized equipment or economic justification. This budget also funds outside testing for the EPA-mandated unregulated contaminant monitoring rule 3 program (UCMR3) which is required for three years (FY14 to FY16).
- \$986,000 for **Other Materials**, an increase of \$20,000 or 2.1%, from the FY14 Budget mainly due to the inclusion of additional supplies for the mobile laboratory. The FY15 Proposed Budget includes \$649,000 for laboratory and testing supplies, \$295,000 for replacement of obsolete or older equipment, and \$42,000 for a variety of smaller items.
- \$81,000 for **Other Services**, an increase of \$4,000 or 5.2%, from the FY14 Budget. The FY15 Proposed Budget primarily covers boat rental service on an as-needed basis, boat dockage for two boats, removal of hazardous waste, and courier service for shipping samples between laboratories.



**ENVIRONMENTAL QUALITY**

<b>FY15 Proposed Current Expense Budget ENVIRONMENTAL QUALITY</b>						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,465,986	\$ 1,422,607	\$ 1,446,560	\$ 1,491,960	\$ 45,400	3.1%
OVERTIME	985	1,922	2,000	2,000	-	0.0%
FRINGE BENEFITS	-	-	-	-	-	-
MAINTENANCE	(905)	-	-	-	-	-
TRAINING & MEETINGS	1,405	2,925	3,000	12,000	9,000	300.0%
PROFESSIONAL SERVICES	1,369,550	1,221,137	1,530,450	1,452,840	(77,610)	-5.1%
OTHER MATERIALS	18,157	6,012	14,580	4,580	(10,000)	-68.6%
OTHER SERVICES	4,983	6,231	4,200	15,454	11,254	268.0%
<b>TOTAL</b>	<b>\$ 2,860,161</b>	<b>\$ 2,660,834</b>	<b>\$ 3,000,790</b>	<b>\$ 2,978,834</b>	<b>\$ (21,956)</b>	<b>-0.7%</b>

The **Environmental Quality Department (EnQuad)** manages and reports on environmental findings that may be linked to MWRA operations and projects. EnQuad monitors sewage influent and effluent quality; monitors the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; manages and enters data; and complies with the reporting requirements of MWRA's National Pollutant Discharge Elimination System permits. MWRA submits permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, EnQuad posts many of these reports on MWRA's website, as well as a list of technical reports and other water quality information.

**Budget Highlights:**

- The FY15 Proposed Budget is \$3.0 million, a decrease of \$22,000 or 0.7% from the FY14 Budget.
- \$1.5 million for **Wages & Salaries**, an increase of \$45,000 or 3.1% from the FY14 Budget mainly due to projected cost of living adjustments. The budget funds 15 positions, level funded with the FY14 Budget.
- \$1.5 million for **Professional Services**, a decrease of \$78,000 or 5.1% from the FY14 Budget primarily due to lower project management, overhead, and data management costs in monitoring contracts that started January 1, 2014. Of the total budget, \$1.1 million is for laboratory testing and analysis in support of MWRA's Harbor and Outfall Monitoring (HOM) Program and \$400,000 covers the following contracts which, except for biotoxicity testing, are co-funded through cost-sharing arrangements:
  - o Biotoxicity testing for Deer Island and Clinton treatment plants, and Combined Sewer Overflow facilities
  - o University of Maine's buoy off Cape Ann, with instruments measuring algae and other water quality indicators
  - o Cape Cod Bay water quality monitoring
  - o Bays Eutrophication Model.

The FY15 Proposed Budget continues to reflect the reduction in scope of HOM monitoring that began in CY2011 based on the favorable findings of nine years of monitoring data and regulatory approval. MWRA is saving approximately \$800,000 per year in monitoring costs due to these changes. In addition, in FY13 MWRA was successful in achieving regulatory approval to discontinue the ambient monitoring plan requirement to measure floatables, for estimated savings of \$40,000 per year.

- \$5,000 for **Other Materials**, a decrease of \$10,000 or 68.6% from the FY14 Budget due to elimination of an FY14 one-time request for Equipment and Furniture needs.
- \$15,000 for **Other Services**, an increase of \$11,000 or 268.0% from the FY14 Budget. Funding in this line item is mainly for professional membership and dues.

## ENGINEERING AND CONSTRUCTION

FY15 Proposd Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 7,290,274	\$ 7,120,388	\$ 7,982,392	\$ 7,907,185	\$ (75,207)	-0.9%
OVERTIME	111,200	72,736	64,500	64,500	-	0.0%
FRINGE BENEFITS	569	341	500	500	-	0.0%
MAINTENANCE	7,647	6,825	9,366	-	(9,366)	-100.0%
TRAINING & MEETINGS	7,017	4,677	6,400	6,400	-	0.0%
PROFESSIONAL SERVICES	65,112	7,503	150,000	25,000	(125,000)	-83.3%
OTHER MATERIALS	66,557	37,261	46,650	40,480	(6,170)	-13.2%
OTHER SERVICES	20,755	23,556	23,200	28,815	5,615	24.2%
<b>TOTAL</b>	<b>\$ 7,569,131</b>	<b>\$ 7,273,287</b>	<b>\$ 8,283,008</b>	<b>\$ 8,072,880</b>	<b>\$ (210,128)</b>	<b>-2.5%</b>

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The **Wastewater Engineering Unit** manages all wastewater design and engineering projects including Combined Sewer Overflow (CSO) engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) services. The **Water Engineering Unit** manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The **Construction Unit** provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island Treatment Plant.

### Budget Highlights:

- The FY15 Proposed Budget is \$8.1 million, a decrease of \$210,000 or 2.5%, from the FY14 Budget.
- \$7.9 million for **Wages and Salaries**, a decrease of \$75,000 or 0.9%, from the FY14 Budget. Wages and Salaries represent 97.9% of the FY15 Proposed Budget and includes funding for 81 positions, two positions fewer than included in the FY14 Budget.
- \$65,000 for **Overtime**, level funded with the FY14 Budget. Overtime covers resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings, and meeting deadlines.
- The **Maintenance** budget for specialized engineering copier services of \$9,000 was moved from Maintenance to Other Services to ensure consistency of account classification for this service within MWRA.
- \$6,000 for **Training & Meetings**, level funded with the FY14 Budget. Training funds cover attendance at conferences and technical seminars.

- \$25,000 for **Professional Services**, which funds as-needed utility borings/test pit services to support CEB projects. This contract will help avoid situations where contractors have utility conflicts while working on MWRA construction projects. The decrease of \$125,000 from the FY14 Budget for this line item is because the majority of the as-needed utility borings/test pit services contract will support capital projects so funding was moved to the CIP.
- \$41,000 for **Other Materials**, a decrease of \$6,000 or 13.2% from the FY14 Budget primarily due to lower historical spending for vehicle expenses. The budget covers vehicle expenses, office supplies, health and safety supplies, and survey equipment.
- \$29,000 for **Other Services**, an increase of \$6,000 or 24.2%, from the FY14 Budget primarily due to the move of specialized engineering copier services from Maintenance to Other Services to ensure consistency of account classification for this service within MWRA. Funding in this line items supports printing/duplicating, telephone expenses, specialized copier services, memberships and dues, and police details.

**PLANNING DEPARTMENT**

<b>FY15 Proposed Current Expense Budget PLANNING AND COORDINATION</b>							
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15		
WAGES & SALARIES	\$ 1,795,643	\$ 1,855,456	\$ 1,898,950	\$ 1,996,710	\$ 97,760		5.1%
OVERTIME	-	-	-	-	-		-
FRINGE BENEFITS	-	-	-	-	-		-
TRAINING & MEETINGS	(69)	7,590	6,000	6,000	-		0.0%
PROFESSIONAL SERVICES	3,028	1,631	3,100	3,100	-		0.0%
OTHER MATERIALS	161,963	133,132	152,541	161,625	9,084		6.0%
OTHER SERVICES	74,589	66,402	79,264	77,367	(1,897)		-2.4%
<b>TOTAL</b>	<b>\$ 2,035,154</b>	<b>\$ 2,064,211</b>	<b>\$ 2,139,855</b>	<b>\$ 2,244,802</b>	<b>\$ 104,947</b>		<b>4.9%</b>

The **Planning Department** provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytical tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation, and manages the wholesale meter data necessary for water and sewer billing. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation; DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

**Mapping, Modeling, and Data Analysis** - Technical staff develops and maintains the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Provides demand analysis and forecasting of water and wastewater flows for master planning and system operations; models reservoir operations and performs drought forecasting and planning; evaluates system expansion requests; and develops and maintains water and wastewater system models in support of master planning, system operations, and optimization. Staff assists in developing agency wide summaries of energy and greenhouse gas emission efficiency improvements.

**System Planning and Renewal** - Staff with expertise in engineering and planning is responsible for water and wastewater system master planning, infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff reviews water and wastewater system expansion requests, water supply agreements, and emergency withdrawal requests. Staff also assists the Operations Division on project siting decisions; environmental reviews; and permitting, including assessing impacts on MWRA facilities from other agency projects. Staff also assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems, for a range of hazards including climate change and sea level rise.

**Regulatory and Policy Matters** - Staff work with various regulatory entities to advocate for cost-effective rule setting that protects the environment and promotes public health. Senior staff members actively work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics. Staff also conducts public health research and reports on potable water quality through production of the annual Consumer Confidence Report (CCR). Staff also coordinates with DCR on watershed protection initiatives.

**Community Support Program** - Staff are responsible for the development, implementation, and reporting on inflow/infiltration (I/I) reduction policy; oversight of and reporting on MWRA leak detection and demand management programs; and reporting on the portions of MWRA's NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems technical assistance, water leak detection technical assistance, and water conservation programs.

**Budget Highlights:**

- The FY15 Proposed Budget is \$2.2 million, an increase of \$105,000 or 5.0% from the FY14 Budget.
- \$2.0 million for **Wages and Salaries**, an increase of \$98,000 or 5.1% from the FY14 Budget primarily due to projected cost of living adjustments and additional funding for GIS intern support. The FY15 Proposed Budget includes funding for 21 positions.
- \$6,000 for **Training and Meetings**, which is level funded with the FY14 Budget and covers participation in training and conferences primarily focused on water quality regulations and geographic information systems (GIS).
- \$3,000 for **Professional Services**, which is level funded with the FY14 Budget and covers costs associated with the translation of the Consumer Confidence Report and also programming of the GIS user interface.
- \$162,000 for **Other Materials**, an increase of \$9,000 or 6.0%, as compared with the FY14 Budget primarily due to anticipated postage increases. This line item includes funding of \$129,000 for postage and mailing of the Consumer Confidence Report (CCR), \$15,000 for water conservation kits, \$15,000 for mapping supplies, \$2,000 for office supplies, and \$1,000 for vehicle expenses.
- \$77,000 for **Other Services**, a decrease of \$2,000 or 2.4%, as compared with the FY14 Budget. The funding in this line item includes \$58,000 for printing the Consumer Confidence Report and \$18,000 for printing of water conservation and other informational brochures.



Law Division  
Budget

## LAW DIVISION

FY15 Proposed Current Expense Budget LAW DIVISION						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,556,666	\$ 1,541,984	\$ 1,547,618	\$ 1,593,073	\$ 45,455	2.9%
OVERTIME	99	-	-	-	-	-
TRAINING & MEETINGS	535	890	1,000	1,000	-	0.0%
PROFESSIONAL SERVICES	110,886	60,014	121,000	121,000	-	0.0%
OTHER MATERIALS	3,707	3,656	5,964	5,964	-	0.0%
OTHER SERVICES	25,512	24,400	28,147	28,147	-	0.0%
<b>TOTAL</b>	<b>\$ 1,697,405</b>	<b>\$ 1,630,944</b>	<b>\$ 1,703,729</b>	<b>\$ 1,749,184</b>	<b>\$ 45,455</b>	<b>2.7%</b>

The Law Division provides legal counsel to the Board of Directors, the Executive Director, and staff on compliance with federal and state laws, regulations, court cases, and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, procurement, and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys monitor the work of outside counsel when it is necessary to retain such services.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

### **FY15 Goals:**

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction, and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.
- Continue to exhaust all opportunities to shift cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.

### **Budget Highlights:**

- The FY15 Proposed Budget is \$1.7 million, an increase of \$45,000 or 2.7% as compared with the FY14 Budget.
- \$1.6 million for **Wages and Salaries**, an increase of \$45,000 or 2.9% as compared with the FY14 Budget mainly due to projected cost of living adjustments. The budget funds 16 positions.
- \$121,000 for **Professional Services**, level funded with the FY14 Budget. Funding in the line item supports projected need for outside legal services during FY15.

- \$28,000 for **Other Services**, level funded with the FY14 Budget. Funding in this line item supports legal database administrative fees and professional membership and dues for the legal staff.





Administration & Finance Division  
Budget

**ADMINISTRATION AND FINANCE DIVISION**

FY15 Proposed Current Expense Budget ADMINISTRATION AND FINANCE						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 15,345,968	\$ 15,326,937	\$ 16,014,665	\$ 16,147,402	\$ 132,737	0.8%
OVERTIME	39,230	69,354	57,404	62,404	5,000	8.7%
FRINGE BENEFITS	17,608,265	17,477,887	18,002,690	18,478,081	475,391	2.6%
WORKERS' COMPENSATION	1,600,726	2,114,701	2,000,000	2,200,000	200,000	10.0%
UTILITIES	100,731	97,516	107,410	101,773	(5,637)	-5.2%
MAINTENANCE	2,930,602	3,149,241	3,489,765	3,629,643	139,878	4.0%
TRAINING & MEETINGS	90,611	201,465	193,514	206,516	13,002	6.7%
PROFESSIONAL SERVICES	1,233,132	1,046,589	1,168,688	1,187,552	18,864	1.6%
OTHER MATERIALS	955,387	1,119,318	1,200,183	1,277,168	76,985	6.4%
OTHER SERVICES	3,018,817	3,167,800	3,096,293	3,152,547	56,254	1.8%
<b>TOTAL</b>	<b>\$ 42,923,469</b>	<b>\$ 43,770,808</b>	<b>\$ 45,330,612</b>	<b>\$ 46,443,086</b>	<b>\$ 1,112,474</b>	<b>2.5%</b>

FY15 Proposed Current Expense Budget ADMINISTRATION AND FINANCE						
DEPARTMENT	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
A & F DIR OFFICE	\$ 341,066	\$ 349,835	\$ 363,795	\$ 372,827	\$ 9,032	2.5%
RATES & BUDGET	761,977	773,302	795,600	814,125	18,525	2.3%
TREASURY	868,222	974,700	981,493	1,016,075	34,582	3.5%
CONTROLLER	1,492,769	1,487,530	1,553,391	1,592,230	38,839	2.5%
RISK MANAGEMENT	406,198	395,442	431,745	432,181	436	0.1%
HUMAN RESOURCES	21,490,738	21,805,555	22,279,953	23,029,408	749,455	3.4%
MIS	8,900,651	9,115,523	10,247,261	10,334,921	87,660	0.9%
FACILITIES MANAGEMENT	2,370,827	2,395,648	2,162,670	2,203,854	41,184	1.9%
FLEET SERVICES	1,824,489	1,929,142	2,035,813	2,066,650	30,837	1.5%
PROCUREMENT	3,873,820	3,783,562	3,767,174	3,814,597	47,423	1.3%
REAL PROPERTY / ENVIRONMENTAL MGMT	592,712	760,569	711,717	766,218	54,501	7.7%
<b>TOTAL</b>	<b>\$ 42,923,469</b>	<b>\$ 43,770,808</b>	<b>\$ 45,330,612</b>	<b>\$ 46,443,086</b>	<b>\$ 1,112,474</b>	<b>2.5%</b>

The **Administration and Finance Division** is responsible for managing the finance and support service functions of the Authority.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director’s Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division performs a multitude of functions that support the daily operations and ensure the implementation of the Authority’s long term goals and strategies.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

**FY15 Goals:**

- Manage and coordinate the Authority's finance and support service functions.
- Continue to implement long-term strategies to ensure reasonable rate increases to MWRA's communities.
- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.
- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

**FY15 Initiatives**

- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Develop options and recommendations to ensure predictable, sustainable, and reasonable assessments and charges to our communities.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Continue the implementation of the Strategic IT Study.
- Provide financial analysis as needed throughout the organization.

**FY14 Mid-Year Accomplishments:**

- Developed the FY15 Proposed Budget consistent with the FY14 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.

- Together with the Human Resources and Procurement departments, Treasury implemented a Prepaid Visa Card program for our employees to purchase required work pants and boots. The card works like a debit/charge card making the purchases easy for the employees and provides documentation for management. The Treasury procedures have been established, tested and documented.
- Continued to work with the landlord to implement facility improvements as provided in our lease agreements for CNY headquarters.
- Developed specifications for 56 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel which has lead to the MWRA in being rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC).
- Continued implementation of Automated Vehicle Locator (AVL) Tracking System in MWRA vehicles.
- Successfully negotiated changes to the clothing allowance program and implemented a clothing allowance debit card program coordinated and administered by Human Resources.
- Completed a variety of technical training to MWRA employees including Confined Space Entry, Wind Turbine Tower Climbing Safety, Spill Containment, Practical Project Management, Signal Person Training and OSHA 8-Hour Annual Refresher training.
- Completed and collected the required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law from all employees.
- Competitively bid CY13 Renewable Energy Portfolio Standard certificates which resulted in FY14 revenues of \$1,122,595 from forward marketing of CY13 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates . In addition, received FY14 revenues of \$10,150 (Class II) RPS certificates.
- Awarded the following major contracts in FY14 to date: Harbor and Outfall Monitoring; DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; Webster Avenue Pipe Replacement Design; Hatchery Pipeline and Hydroelectric Design; Pilot Program for Organic Digestion at DITP; Security Guard Services, and Dam Safety Consulting Services.
- Advertised or received bids/proposals/statements for the following: Rehabilitation of Anaerobic digesters at Clinton Treatment Plant; Section 111 Southern Extra High Redundancy Pipeline Design; DITP HVAC Replacement Design; Financial Advisor Services; Dam EAP Planning; and DITP Valve and Piping Replacement.
- Recycled 12.85 tons of paper, 186.35 tons of scrap metal (includes stainless steel and aluminum) and 2,980 pounds of brass and copper, generating \$51,616 in revenues.

**ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE**

FY15 Proposed Current Expense Budget ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 333,417	\$ 337,251	\$ 356,202	\$ 362,527	\$ 6,325	1.8%
TRAINING & MEETINGS	2,214	4,352	2,093	4,000	1,907	91.1%
OTHER MATERIALS	4,352	7,597	4,200	5,100	900	21.4%
OTHER SERVICES	1,083	635	1,300	1,200	(100)	-7.7%
<b>TOTAL</b>	<b>\$ 341,066</b>	<b>\$ 349,835</b>	<b>\$ 363,795</b>	<b>\$ 372,827</b>	<b>\$ 9,032</b>	<b>2.5%</b>

The **Administration and Finance (A&F) Division Director's Office** oversees a multitude of functions that support the daily operations and ensure the implementation of the Authority's long-term goals and strategies.

The Director's Office is responsible for the centralized financial functions of rates development, revenue collection, budgeting, capital financing, debt and investment management, accounting, payroll processing, and risk management as well as the support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property and environmental management. Additionally, the Director's Office ensures that transactions comply with all rules, regulations, Authority policies and procedures, and contract terms. The Director's Office manages the development and implementation of policies to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all administrative and financial issues.

The division's continuing challenge in FY14 will be maintaining an agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

**FY15 Goals:**

- Manage and coordinate the Authority's finance and support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.

**Budget Highlights:**

- The FY15 Proposed Budget is \$373,000, an increase of \$9,000 or 2.5% as compared to the FY14 Budget.
- \$363,000 for **Wages and Salaries**, an increase of \$6,000 or 1.8% as compared to the FY14 Budget mainly due to projected contractual increases. The FY15 Proposed Budget funds three positions.

## RATES & BUDGET

FY15 Proposed Current Expense Budget RATES & BUDGET						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 760,849	\$ 772,530	\$ 795,000	\$ 813,525	\$ 18,525	2.3%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	158	240	200	200	-	0.0%
OTHER SERVICES	970	532	400	400	-	0.0%
<b>TOTAL</b>	<b>\$ 761,977</b>	<b>\$ 773,302</b>	<b>\$ 795,600</b>	<b>\$ 814,125</b>	<b>\$ 18,525</b>	<b>2.3%</b>

The **Rates & Budget Department** provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff works closely with divisional staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to projected schedules and budgeted spending. Staff also coordinates the development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to the budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and develops planning estimates of future rate projections.

### FY15 Goals:

- Continually enhance processes and the management of resources to deliver the final CIP and CEB timely and accurately.
- Adhere to all MWRA policies, procedures, and administrative practices as well as all relevant statutory and regulatory authority, accounting, and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.
- Maintain excellent report with communities by responding to inquiries regarding assessment and provide financial analysis as needed.

### FY15 Initiatives:

- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Employ long-term strategies to ensure predictable, sustainable, and reasonable assessments and charges to our communities.
- Coordinate with MIS on the migration of the Hyperion application for the CIP and CEB to a new software application.

**FY14 Mid-Year Accomplishments:**

- Developed the FY15 Proposed Budget consistent with the FY14 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.
- Developed electronic filing for a variety of budgetary documents and disposed of a significant amount of hard copies.
- Able to stay at the projected assessment levels through measured cost increases and continuation of past defeasance strategies.

**Budget Highlights:**

- The FY15 Proposed Budget is \$814,000, an increase of \$19,000 or 2.3% as compared to the FY14 Budget.
- \$814,000 for **Wages and Salaries**, an increase of \$19,000 or 2.3% as compared to the FY14 Budget mainly due to projected contractual increases. The FY15 Proposed Budget funds eight positions.

## TREASURY

FY15 Proposed Current Expense Budget TREASURY							
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15		
WAGES & SALARIES	\$ 677,941	\$ 736,271	\$ 725,923	\$ 749,805	\$ 23,882	3.3%	
OVERTIME	124	-	-	-	-	-	
MAINTENANCE	-	-	-	-	-	-	
TRAINING & MEETINGS	-	90	-	-	-	-	
PROFESSIONAL SERVICES	183,909	229,309	248,050	259,950	11,900	4.8%	
OTHER MATERIALS	52	584	300	300	-	0.0%	
OTHER SERVICES	6,196	8,446	7,220	6,020	(1,200)	-16.6%	
<b>TOTAL</b>	<b>\$ 868,222</b>	<b>\$ 974,700</b>	<b>\$ 981,493</b>	<b>\$ 1,016,075</b>	<b>\$ 34,582</b>	<b>3.5%</b>	

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collects revenue, disburse funds, and manage grant and loan programs in addition to debt issuance and investments.

### FY15 Goals:

- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution requirements regarding security and liquidity.

### FY14 Mid-Year Accomplishments:

- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Together with the Human Resources and Procurement departments, Treasury implemented a Prepaid Visa Card program for our employees to purchase required work pants and boots. The card works like a debit/charge card making the purchases easy for the employees and provides documentation for management. The Treasury procedures have been established, tested and documented.

### Budget Highlights:

- The FY15 Proposed Budget is \$1.0 million, an increase of \$35,000 or 3.5% as compared to the FY14 Budget.
- \$750,000 for **Wages and Salaries**, an increase of \$24,000 or 3.3% as compared to the FY14 Budget mainly due to projected contractual increases. The proposed budget funds nine positions.
- \$260,000 for **Professional Services**, an increase of \$12,000 or 4.8% as compared to the FY14 Budget.



## CONTROLLER

FY15 Proposed Current Expense Budget CONTROLLER						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,331,607	\$ 1,325,287	\$ 1,390,941	\$ 1,429,780	\$ 38,839	2.8%
OVERTIME	-	-	-	-	-	-
MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	160,000	160,491	160,000	160,000	-	0.0%
OTHER MATERIALS	193	87	300	300	-	0.0%
OTHER SERVICES	969	1,665	2,150	2,150	-	0.0%
<b>TOTAL</b>	<b>\$ 1,492,769</b>	<b>\$ 1,487,530</b>	<b>\$ 1,553,391</b>	<b>\$ 1,592,230</b>	<b>\$ 38,839</b>	<b>2.5%</b>

The **Controller Department** consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

### FY15 Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

### FY15 Initiatives:

- Integrate new contract accounting software module with existing accounting software.
- Complete automation of multiple Payroll Department documents.

### FY14 Mid-Year Accomplishments:

- Rolled out electronic time sheet approval to Deer Island Maintenance departments.
- Collaborated with Procurement and MIS Departments to substantially complete testing Contract Management Application for FY15 implementation.

### Budget Highlights:

- The FY15 Proposed Budget is \$1.6 million, an increase of \$39,000 or 2.5% as compared to the FY14 Budget.
- \$1.4 million for **Wages and Salaries**, an increase of \$39,000 or 2.8% as compared with the FY14 Budget mainly due to projected contractual increases. The FY15 Proposed Budget funds 18 positions.
- \$160,000 for **Professional Services**, which is level funded with the FY14 Budget. The FY15 Proposed Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

## RISK MANAGEMENT

FY15 Proposed Current Expense Budget RISK MANAGEMENT							
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15		
WAGES & SALARIES	\$ 357,568	\$ 364,317	\$ 386,295	\$ 401,581	\$ 15,286	4.0%	
OVERTIME	-	23	-	-	-	-	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	48,173	30,757	45,000	30,000	(15,000)	-33.3%	
OTHER MATERIALS	7	12	-	-	-	-	
OTHER SERVICES	450	333	450	600	150	33.3%	
<b>TOTAL</b>	<b>\$ 406,198</b>	<b>\$ 395,442</b>	<b>\$ 431,745</b>	<b>\$ 432,181</b>	<b>\$ 436</b>	<b>0.1%</b>	

The **Risk Management Department** is responsible for all MWRA insurance and risk management functions. Department staff manage all administrative functions relating to the initial reporting, processing, and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff members are responsible for the annual procurement, renewals, and maintenance of all Authority-wide insurance policies and programs and for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serve as liaisons to insurance industry participants including brokers, insurers, insurance consultants, and attorneys as well as providing support to all MWRA departments.

### FY15 Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance policies and contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.

### Budget Highlights:

- The FY15 Proposed Budget is \$432,000, level funded with the FY14 Budget.
- \$402,000 for **Wages & Salaries**, an increase of \$15,000 or 4.0% as compared to the FY14 Budget mainly due to projected contractual increases. The proposed budget funds four positions.
- \$30,000 for **Professional Services**, a decrease of \$15,000 or 33.3% as compared to the FY14 Budget which included costs relating to review and preparation of MWRA's Triennial Insurance Reserve Fund review.

## FACILITIES MANAGEMENT

<b>FY15 Proposed Current Expense Budget FACILITIES MANAGEMENT</b>						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 412,641	\$ 409,142	\$ 427,710	\$ 416,430	\$ (11,280)	-2.6%
OVERTIME	16,527	23,481	24,154	24,154	-	0.0%
FRINGE BENEFITS	34	18	-	-	-	-
UTILITIES	98,749	95,858	104,410	98,773	(5,637)	-5.4%
MAINTENANCE	12,107	13,087	35,900	30,900	(5,000)	-13.9%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	3,200	9,350	-	-	-	-
OTHER MATERIALS	7,463	15,271	57,733	56,233	(1,500)	-2.6%
OTHER SERVICES	1,820,106	1,829,441	1,512,763	1,577,364	64,601	4.3%
<b>TOTAL</b>	<b>\$ 2,370,827</b>	<b>\$ 2,395,648</b>	<b>\$ 2,162,670</b>	<b>\$ 2,203,854</b>	<b>\$ 41,184</b>	<b>1.9%</b>

The **Facilities Management Department** provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate the efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, general office equipment repairs, transportation, mail, and courier services. Staff coordinates MWRA parking programs and corporate Massachusetts Bay Transportation Authority (MBTA) pass programs.

### **FY15 Goals:**

- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facility to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

### **FY14 Mid-Year Accomplishments:**

- Continued to work with the landlord to implement facility improvements as provided in our lease agreements for CNY headquarters.
- In conjunction with MIS, continued implementation of multi-function technology for copiers and printers. By utilizing this technology it was possible to replace up to four individual units (printer, copier, scanner and fax) with one piece of equipment that performs all of these functions providing savings in floor space, power, equipment maintenance, and production costs (cost per page).

**Budget Highlights:**

- The FY15 Proposed Budget is \$2.2 million, an increase of \$41,000 or 1.9%, as compared with FY14 Budget.
- \$416,000 for **Wages and Salaries**, a decrease of \$11,000 or 2.6%, as compared to the FY14 Budget mainly due to increased contractual agreements offset by elimination of FY14 one-time funding for temporary employees and interns. The budget supports seven positions.
- \$24,000 for **Overtime**, which is level funded with the FY14 Budget.
- \$99,000 for **Utilities**, a decrease of \$6,000 or 5.4% as compared to the FY14 Budget mainly due to lower than projected electricity pricing.
- \$31,000 for **Ongoing Maintenance**, a decrease of \$5,000 or 13.9% as compared with the FY14 Budget mainly due to lower than projected need for maintenance services in FY15. This line item includes funding for facility and equipment maintenance and services including heating, ventilation and air conditioning (HVAC), plumbing and electrical services for the CNY headquarters and the Marlboro Records Center and Warehouse.
- \$56,000 for **Other Materials**, a decrease of \$2,000 or 2.6% as compared with the FY14 Budget. This line item includes funding for postage, supplies, furniture, and equipment.
- \$1.6 million for **Other Services**, an increase of \$65,000 or 4.3% as compared with the FY14 Budget mainly due to contractual increases associated with the lease for the Charlestown Navy Yard and increased property taxes. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space.

## FLEET SERVICES

FY15 Proposed Current Expense Budget FLEET SERVICES						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 624,570	\$ 716,386	\$ 734,429	\$ 749,660	\$ 15,231	2.1%
OVERTIME	2,078	11,952	14,690	14,690	-	0.0%
FRINGE BENEFITS	15	158	1,000	1,000	-	0.0%
UTILITIES	1,981	1,658	3,000	3,000	-	0.0%
MAINTENANCE	650,070	647,629	683,750	684,000	250	0.0%
TRAINING & MEETINGS	-	-	25,205	42,000	16,795	66.6%
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	544,983	550,563	570,200	570,200	-	0.0%
OTHER SERVICES	792	796	3,539	2,100	(1,439)	-40.7%
<b>TOTAL</b>	<b>\$ 1,824,489</b>	<b>\$ 1,929,142</b>	<b>\$ 2,035,813</b>	<b>\$ 2,066,650</b>	<b>\$ 30,837</b>	<b>1.5%</b>

The **Fleet Services Department** manages and maintains MWRA's motor vehicle and equipment fleet. The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

### FY15 Goals:

- Continue to cost effectively maintain the Authority's fleet of vehicles and pieces of equipment.
- Continue the Authority-wide 2-way radio communications re-banding project, and coordinate distribution and installation of all 2-way radio equipment.
- Install Automatic Vehicle Locators(AVL) devices in all authority vehicles.

### FY14 Mid-Year Accomplishments:

- Developed specifications for 56 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel which has lead to the MWRA being rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC).
- Prepared documentation for the surplus sale of 19 vehicles and pieces of equipment and worked with the Procurement Department for the auction and disposal of the vehicles/equipment.
- Continued to work with MIS & Operations staff on the Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Developed and continued implementing the Federal Communications Commission (FCC) mandated frequency re-banding project for Motorola and Nextel.

**Budget Highlights:**

- The FY15 Proposed Budget is \$2.1 million, an increase of \$31,000 or 1.5% as compared to the FY14 Budget.
- \$750,000 for **Wages & Salaries**, an increase of \$15,000 or 2.1% as compared to the FY14 Budget mainly due to projected contractual increases. The final budget supports 11 positions.
- \$684,000 for **Ongoing Maintenance**, which is level funded with the FY14 Budget. The budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet.
- \$570,000 for **Other Materials**, which is level funded with the FY14 Budget. The FY15 Proposed Budget includes funds for vehicle/equipment fueling which is based on historical fuel usage and current pricing. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives. It should be noted that the volatility of fuel pricing could impact this line item.

## HUMAN RESOURCES

FY15 Proposed Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 1,740,651	\$ 1,808,014	\$ 1,823,952	\$ 1,899,835	\$ 75,883	4.2%
OVERTIME	-	21	-	-	-	-
FRINGE BENEFITS	17,608,031	17,477,396	18,001,690	18,477,081	475,391	2.6%
WORKERS' COMPENSATION	1,600,726	2,114,701	2,000,000	2,200,000	200,000	10.0%
MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	1,685	2,097	3,963	3,263	(700)	-17.7%
PROFESSIONAL SERVICES	512,618	374,418	415,638	412,602	(3,036)	-0.7%
OTHER MATERIALS	13,465	15,944	15,170	16,845	1,675	11.0%
OTHER SERVICES	13,562	12,964	19,540	19,782	242	1.2%
<b>TOTAL</b>	<b>\$ 21,490,738</b>	<b>\$ 21,805,555</b>	<b>\$ 22,279,953</b>	<b>\$ 23,029,408</b>	<b>\$ 749,455</b>	<b>3.4%</b>

FY15 Proposed Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
EMPLOYEE/COMP/BEN	\$ 798,093	\$ 685,095	\$ 690,223	\$ 712,058	\$ 21,835	3.2%
LABOR RELATIONS	1,041,023	1,063,685	1,101,110	1,136,478	35,368	3.2%
TRAINING	402,137	419,146	442,546	458,528	15,982	3.6%
CENTRALIZED FRINGE BENEFITS	19,249,485	19,637,630	20,046,074	20,722,344	676,270	3.4%
<b>TOTAL</b>	<b>\$ 21,490,738</b>	<b>\$ 21,805,556</b>	<b>\$ 22,279,953</b>	<b>\$ 23,029,408</b>	<b>\$ 749,455</b>	<b>3.4%</b>

The **Human Resources Department** is comprised of three units:

The **Employment, Compensation, Benefits and HRIS Unit** coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers, and promotions to meet the business needs of MWRA; develops and coordinates MWRA compensation and benefits strategies and programs; and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required for their positions. The **Labor Relations Unit** is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The **Training Unit** develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for the oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which includes the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

### FY15 Goals:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and

enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

**FY15 Initiatives:**

- Support the agency's efforts in developing and implementing succession plan activities in anticipation of an increase in retirements over the next several years.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Support the collective bargaining negotiation process with data analysis, costing analysis and wage and benefit survey data collection and analysis.
- Provide training and guidance to MWRA managers in the areas of leave time management, sick time use, time and attendance issues, and matters of employee conduct issues.
- Investigate complaints of violations of MWRA policies and Code of Conduct as necessary.
- Provide additional training for Administrative Certificate Program (ACP), Productivity Improvement Program (PIP), and Authority-wide Harassment Prevention Training.
- Update and communicate policies associated with harassment prevention and non-discrimination.
- Provide regular reporting on agency headcount and use of overtime/compensatory time.
- Work with Emergency Preparedness and Planning on emergency preparedness training initiatives.

**FY14 Mid-Year Accomplishments:**

- Successfully negotiated and implemented an agreement with all five collective bargaining units regarding the use of an Automated Vehicle Locator Tracking System at MWRA.
- Successfully negotiated changes to the clothing allowance program and implemented a clothing allowance debit card program coordinated and administered by Human Resources.
- Commenced working with internal staff in preparation for collective bargaining negotiations with all five collective bargaining units.
- Procured and selected a new dental insurance provider (Delta Dental). Managed the enrollment process for all dental participants to move from the former provider to Delta Dental.
- Successfully delivered Administrative Certification Program (ACP) training, Supervisory Development, Productivity Improvement Program (PIP) and Performance Management training.



- Completed a variety of technical training to MWRA employees including Confined Space Entry, Wind Turbine Tower Climbing Safety, Spill Containment, Practical Project Management, Signal Person Training and OSHA 8-Hour Annual Refresher training.
- Completed and collected the required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law from all employees.

**Budget Highlights:**

- The FY15 Proposed Budget is \$23.0 million, an increase of \$749,000 or 3.4% as compared to the FY14 Budget.
- \$1.9 million for **Wages and Salaries**, an increase of \$76,000 or 4.2% as compared to the FY14 Budget mainly due to projected contractual increases. The budget includes funding for 21 positions.
- \$18.0 million for **Fringe Benefits**, an increase of \$475,000 or 2.6% as compared to the FY14 Budget. The budget includes \$16.0 million for health insurance, \$1.3 million for Medicare, \$1.0 million for dental insurance, \$161,000 for unemployment insurance, and \$31,000 for tuition reimbursement.
- \$2.2 million for **Workers' Compensation**, an increase of \$200,000 or 10% as compared to the FY14 Budget. The Human Resources Department is responsible for the management of this program and the coordination with the third-party administrator and legal counsel.
- \$413,000 for **Professional Services**, a decrease of \$3,000 or 0.7% as compared with the FY14 Budget. The FY14 Budget includes \$155,000 for Professional Development and Technical Training, \$122,000 for Workers' Compensation Claims Administration and Legal Services \$56,000 for Arbitrators and Arbitration Expenses, \$45,000 for Medical Evaluation Services, \$21,000 for the Employee Assistance Program, and \$13,000 for Specialized Investigation Services.

## MANAGEMENT INFORMATION SYSTEMS (MIS)

<b>FY15 Proposed Current Expense Budget MANAGEMENT INFORMATION SYSTEM</b>						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 5,148,842	\$ 5,004,036	\$ 5,353,921	\$ 5,258,540	\$ (95,381)	-1.8%
OVERTIME	3,518	4,220	2,810	2,810	-	0.0%
FRINGE BENEFITS	-	37	-	-	-	-
MAINTENANCE	2,078,922	2,326,564	2,770,115	2,914,743	144,628	5.2%
TRAINING & MEETINGS	80,043	155,470	146,528	146,528	-	0.0%
PROFESSIONAL SERVICES	325,233	230,717	300,000	325,000	25,000	8.3%
OTHER MATERIALS	277,135	413,172	466,322	527,735	61,413	13.2%
OTHER SERVICES	986,958	981,307	1,207,565	1,159,565	(48,000)	-4.0%
<b>TOTAL</b>	<b>\$ 8,900,651</b>	<b>\$ 9,115,523</b>	<b>\$ 10,247,261</b>	<b>\$ 10,334,921</b>	<b>\$ 87,660</b>	<b>0.9%</b>

The **MIS Department** provides MWRA with the information processing services necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA's ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

### **FY15 Goals:**

The goal of the MIS department is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard (CNY), Chelsea, Deer Island, Southboro, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- The automated business services delivered increase the efficiency of MWRA's business processes and improve the effectiveness of the staff while maintaining system security and integrity;
- Existing applications, operating systems, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced;
- Future changes for Information System reflect management priorities and are consistent with the MWRA Master Plan and the five-year IT Strategic Plan; and
- Information Technology Service Management is implemented to improve customer satisfaction and improved efficiencies in delivering services.

### **FY15 Initiatives:**

#### **Information Technology Management Program**

This program is intended to improve the organization of Information Technology (IT) and the oversight processes for selecting, implementing and operating IT solutions throughout the MWRA. The FY15 initiatives are as follows:

- Establishment of an Information Technology Task Force (ITTF) to recommend and prioritize projects, policies and standards.

- Establishment of a MWRA Software Development Life Cycle (SDLC) with the appropriate policies, procedures, standards, tools and techniques to efficiently deliver development efforts on time and within budget.
- Implement a set of policies, procedures, standards, tools, and techniques which employs the best practices for Information Technology Service Management (ITSM). This will be put in place with the MAXIMO 7.5 upgrade effort through the use of the Smart Cloud Control Desk Module.
- In parallel with the ITSM effort, MIS will be re-organizing to better deliver services. This will include updating Job Descriptions to reflect the changing technologies and the methods of delivery, re-aligning the organization to match the ITSM and SDLC best practices, and focusing on how technology can be used to increase efficiency of staff and improve the effectiveness of the Authority's business processes.

## **Application Improvement Program**

This program along with associated projects continue MWRA's efforts to update and enhance a wide range of applications to improve efficiencies of business processes and effectiveness of the staff while ensuring the availability, and integrity of the MWRA's data resources. This program relates to 123 applications with 227 modules that support various business functions across the Authority. Seventy-seven, or 63%, of these applications are commercially available off the shelf packages.

Major initiatives for FY2015 area as follows:

### **Administration and Finance Initiatives**

- ***Enterprise Document/Records Management Implementation:*** The objective of this project is to identify and define the requirements as they relate to electronic content management at the MWRA and to initiate solicitation and procurement a technical solution in preparation of a department-by-department implementation set of projects. Discussions involving a pilot project with Engineering and Construction have begun. In addition, an upgrade for the Canto Cumulous application for photo images is being planned that will be coordinated with a new image storage initiative for photo and video assets.
- ***e-Procurement Implementation:*** This project is focused on the implementation of the Contract Management module from Infor Global Solutions.
- ***Enterprise Resource Planning (ERP) System Upgrades:*** During FY15 upgrades will occur to the e-procurement applications and Mobile Supply Chain Management (MSCM) infrastructure, and BSI Tax Factory upgrade.

### **Compliance Management Initiatives**

- ***E-LAB*** The MWRA Department of Laboratory Services (DLS) is initiating a large scale two phase Laboratory Information Management System (LIMS) project that will improve productivity of staff and significantly reduce the amount of paper being generated. The improvement in productivity will be realized by eliminating the printing of hard copy reports generated by automated test equipment, especially the gas chromatography reports. Instead all automated test equipment results will be digitally captured and stored in the LIMS database. The second phase of this project will be based on a new module of LIMS called Electronic Laboratory Notebook (ELN). ELN is an electronic version of the paper notebooks being used by the laboratories. Additional ease of use functionality provided by ELN will streamline processes.
- ***Pretreatment Information Management System (PIMS) Business Cycle Enhancements:*** The objective of this project is to update the existing application and deliver new functionality in PIMS well

in advance of the next TRAC business cycle for the MWRA's Pretreatment Program.

- ***SSO Monitoring and Reporting:*** MIS has been assigned to provide a business solution to streamline and automate the field data collections of Sanitary Sewer Overflow (SSO) spills, data compilation and reporting by using the latest mobile technology on field data collection, electronic reporting to required Agencies and parties, and providing a public web portal for sharing information on SSO spills on a 24X7 basis.

### **System Integration and Data Warehousing Initiatives**

- ***Geographic Information System (GIS) Integration:*** The purpose of the GIS Integration projects are to integrate the GIS spatial technology into business and operational applications and to determine an overall strategy of delivering a special real-time dashboard for managing the MWRA.
- ***Management Dashboards & Reporting:*** These projects consolidate administrative management dashboards and reporting tools to assist in management of the day-to-day operations and to provide data to assist in Authority-wide decision making.

### **Operations Management Initiative**

- ***Computerized Maintenance Management System (CMMS) Enhancements:*** The MWRA is running Maximo version 5.2 which is no longer supported by IBM. Maximo must be upgraded to 7.5 in order to become supported by IBM. This effort includes:
  - Completing the upgrade
  - Implementing the Calibration Module.
  - Implementing Smart Cloud Control Desk Module
- ***Tiscor Inspection System:*** InspectNTrack product, a web based application with a SQL back-end, which could be used to consolidate multiple standalone departmental TISCOR databases as reviewed and chosen by users. Staff worked with the vendor on data mapping and migration of the existing four standalone databases into a new centralized database. Standardized facility names exported from GIS being used and new or revised inspection routes were established. Data scrubbing and production server installation is complete and user testing is underway.
- ***PI:*** The MWRA uses PI to monitor important operating parameters of assets in the field and also facility assets at DITP. The current system is a three tier configuration with servers for the database, application, and Processbook. The PI 2012 upgrade will monitor the same assets as the old system with much improved functionality and performance. The new system is a three tier configuration with servers for the database, application, and Processbook. The new system will be upgraded to a 64 bit OS and provide high availability features.

### **Information Security Program**

This program focuses on the resiliency and sustainability of the MWRA's data security practices and computing-related assets. It also monitors for penetrations, intrusions, and malicious actions from external threats. The projects associated with this program continue to assess, implement, and improve the MWRA's information security protections, including recommendations to improve each IT system's security profile. The following are the FY2015 projects under this program:

- ***Information Security Plan Design and Implementation (Phase 2)***
- ***Security Infrastructure Review, Upgrade, and Monitoring***
- ***Authority Mobile Application Delivery Implementation***
- ***Secure File Delivery Implementation***
- ***Secure Media Destruction Program Improvements***

## **Technology Infrastructure Improvement Program**

The MWRA currently owns and operates 1,238 desktops, 160 laptops, 108 servers, 20 Wide Area Network Circuits and associated equipment. It also manages in excess of 18 Terabytes (TB) of data of which 7 TBs are stored in 148 database schemes and an additional 11 Terabytes of unstructured data are stored on file shares. This program will assess and implement consolidated and optimized versions of these core IT infrastructure elements as utility-like services and commodities. Furthermore, it will look to improve and optimize data management practices including: storage, backup, and achieve and purge processes and technologies. The following FY2015 projects are currently under way:

- ***Server Consolidation and Virtualization:*** Continuation of “Green Data Center” initiatives, including virtualizing more physical servers and reducing the variety of application infrastructure component versions and manufacturers (like web servers, application servers, and database servers).
- ***Network Convergence:*** Explore new technologies for future implementation considerations including new networking technologies for upcoming network upgrade, web and mobile platforms for business and information services, and Voice-Over-IP (VOIP) for communications.
- ***Network Storage Improvements:*** Plan for the migration and implementation for consolidation of new storage requirements for archiving, and implement e-discovery services.
- ***Office Automation Refresh Program:*** Desktop, mobile, printers, MFD etc.

## **FY14 Mid-Year Accomplishments:**

### **Application Improvement Program**

#### **Administration and Finance Initiatives**

- ***Historic Photo Digitization Project:***  
The Library and Records Center unit supported a Public Affairs/Executive Office initiative to digitally capture historical images of the MWRA and MDC construction projects. Staff, with input from the Executive Office, evaluated services provided by the Digital Commonwealth (DigiCom) and decided to have them scan the MWRA assets including glass negatives, largely housed at State Archives, and MWRA photo albums. The first five boxes of glass negatives were delivered to the Digital Commonwealth (DigiCom) Team for free scanning and in Q2, initial scans from the pilot project were received. Pilot images were delivered to Public Affairs for digital asset management catalog development. Library staff sent metadata to Public Affairs staff to add to the Cumulus digital asset management database and is working on generating the metadata for the future batches. This process will be ongoing for several years until all the images are scanned, cataloged and published.
- ***Enterprise Resource Planning (ERP) System Enhancements:***  
Lawson 9.0.1 Upgrade: Staff assisted Procurement and HR/Payroll staff with user tests and completed roll-out of 9.0.1 application to the production server over the weekend of Sept 22nd/23rd. Go Live was successful.

- ***BottomLine Upgrade:***  
MWRA upgraded the BottomLine application used for payroll and AP Check printing and electronic file transfers including ACH payments. This upgrade provides a server based solution accessible through a web-browser instead of the current PC based solution, easier IT management allow us to maintain vendor support.
- ***E-Procurement - Contract Management:***  
Extensive effort was undertaken to learn, configure and test a Contract Management application that is highly integrated with the Strategic Sourcing application. A significant data migration effort is under way that will allow all past and active contracts, change orders, amendments, and payments from the custom application to be available in the new system. In addition, staff facilitated the partnership between the application vendor and a bid bond vendor that resulted in a new software release that includes the bid bond functionality requested by the Utility Contractors of New England (UCANE) and the Construction Industries of Massachusetts (CIM) professional organizations. Since the integration between Strategic Sourcing and the Contract Management Modules allow Contracts to be generated from the bid events, MWRA will bid Construction Contracts when the Contract Management Application goes live in Q1FY15
- ***Water Quality Reporting System:*** The Southborough Water Quality group procured a data analysis tool that is capable of correlating water quality testing results with other relevant data residing in spreadsheets, MS Access databases, comma delimited files, and other databases. This new data analysis tool has been configured to produce regulatory compliance reports on free chlorine, ozone contact and ultraviolet intensity at the Carroll Plant and Ware Disinfection Facility.
- ***ISO New England Spot Price:*** Created a new interface that updates PI with ISO New England spot electricity price with five minute averages for both the Boston and Western Mass. markets. This replaces an existing interface which did not have the capability to update more than one market. The interface includes Top View alarming every time the rates exceed \$650 per mega watt hour for 30 minutes or more.
- ***Telog Upgrade:*** The MWRA metering group has completed a project with Telog to upgrade their software and Hardware. The hardware upgrade included locating the servers in the MIS data center.
- ***LIMS Upgrade:*** DLS and MIS staff upgraded the Laware Information Management System to version 6.

### **Information Security Program**

- Completed Phase I of the design and development of the Information Security Plan.

### **Technology Infrastructure Improvement Program**

#### **Office Automation Improvement and Refresh Efforts**

- ***Print, Fax, Scan and Copy:*** Installed new multi-function devices (MFDs) throughout MWRA facilities consolidating services (Print, FAX, Scan, Copier) onto one platform. The rollout has replaced 47 pieces of aged equipment for better than a 2:1 equipment reduction.
- ***Smart Boards:*** Nine Smart Boards were procured and installed at CNY, DITP, Southborough, CWTP, E&C, Chelsea EOC and Chelsea Muster Room.

- **Contaminate Warning System (CWS):** Continued to support efforts to execute the Contaminate Warning System (CWS) with the implementation of a private wireless network at 18 locations that allow the sampling devices to communicate with the application server located in the Chelsea Data Center.
- **Symantec Encryption Management Software:** This software enables the MWRA to further protect data. The software was installed onto the VMware production cluster with help from Symantec Tech Support.
- **Data Network Wireless Access Points:** These access points were installed in the Chelsea Vehicle Maintenance and TV Inspection bays. These access points enable the download of software upgrades from the manufacturer for vehicle maintenance onsite and the transfer of videos from the TV inspection vehicle to a MIS server on a regular basis for storage and to ensure data integrity.
- **Backup Technology:** Began a major undertaking to implement a new Backup Technology that meets the MWRA's ever increasing data requirements. In the month of January, implementation of Data Domain was introduced at CNY as part of this onsite backup solution and testing began. Other sites will include Chelsea, Southborough, Deer Island and JJCWTP. Data Domain provides local site back up for Chelsea, Deer Island, Southboro, and Charlestown. It is scheduled to be completed by June FY14.
- **Net2020 Infrastructure Upgrade Program:** Successfully completed an upgrade of the Core Network Switch in Chelsea Data Center. This core switch connects all the Authority's users to all the MIS services including Email, Internet, Intranet, and applications. With this implementation, the Chelsea's Network backbone speed has increased from 1GB to 10GB and provides speed of 1 GB to every Desktop in Chelsea.
- **Data Network circuit upgrades** from 1.5MB to 10MB for Deer Island, Marlboro (CWTP), and Southboro. The Chelsea Internet circuit upgrade from 10MB to 50MB to be completed by May 2014.
- **FireEye Implementation:** MWRA will have completed by June 2014 the addition of protection against advanced threats and malware to the MWRA networks. This protection will cover both email-based and web-based methods of intrusion.
- **Secure File Transfer Protocol (SFTP) Service:** MWRA will have completed by June 2014 the implementation of a service to improve the security of file transfers between MWRA and external parties.

#### **Budget Highlights:**

- The FY15 Proposed Budget is \$10.3 million, an increase of \$88,000 or 0.9% as compared to the FY14 Budget.
- \$5.3 million for **Wages and Salaries**, a decrease of \$95,000 or 1.8%, as compared to the FY14 Budget due to lower funded headcount offset by projected cost of living adjustments The budget includes funding for 56 positions, one position less than in FY14.
- \$2.9 million for **Ongoing Maintenance**, an increase of \$145,000 or 5.2%, as compared to the FY14 Budget. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff.

- \$147,000 for **Training and Meetings**, level funded with the FY14 Budget. Funding will support staff training in various computer applications as part of the MIS IT Strategic Plan.
- \$325,000 for **Professional Services**, an increase of \$25,000 or 8.3%, as compared to the FY14 Budget. Funding will support the continued development of an MIS Strategic Plan and implementation services.
- \$528,000 for **Other Materials**, an increase of \$61,000 or 13.2%, as compared to the FY14 Budget primarily due to increased specialized hardware requests.
- \$1.2 million for **Other Services**, a decrease of \$48,000 or 4.0%, as compared to the FY14 Budget mainly due to lower Automatic Vehicle Locator (AVL) funding.



## PROCUREMENT

FY15 Proposed Current Expense Budget PROCUREMENT							
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15		
WAGES & SALARIES	\$ 3,497,314	\$ 3,434,479	\$ 3,594,221	\$ 3,630,144	\$ 35,923	1.0%	
OVERTIME	16,983	29,657	15,750	20,750	5,000	31.7%	
FRINGE BENEFITS	185	278	-	-	-	-	
UTILITIES	-	-	-	-	-	-	
MAINTENANCE	189,502	161,962	-	-	-	-	
TRAINING & MEETINGS	5,435	2,553	7,725	7,725	-	0.0%	
PROFESSIONAL SERVICES	-	-	-	-	-	-	
OTHER MATERIALS	106,745	115,051	84,608	99,108	14,500	17.1%	
OTHER SERVICES	57,656	39,582	64,870	56,870	(8,000)	-12.3%	
<b>TOTAL</b>	<b>\$ 3,873,820</b>	<b>\$ 3,783,562</b>	<b>\$ 3,767,174</b>	<b>\$ 3,814,597</b>	<b>\$ 47,423</b>	<b>1.3%</b>	

The **Procurement Department** includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The **Materials Management Unit** manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

### FY15 Goals:

- Procure materials, equipment, supplies, construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, and cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.
- Implement electronic procurement for contract bids, which will significantly reduce the amount of paper processing.
- Move employee clothing procurement to an automated employee ordering program.
- Initiate the review of Procurement Policies and Procedures (ADM20).
- Continue staff procurement training.

## **FY14 Mid-Year Accomplishments:**

- Competitively bid CY13 Renewable Energy Portfolio Standard certificates which resulted in FY14 revenues of \$1,122,595 from forward marketing of CY13 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates. In addition, received FY14 revenues of \$10,150 for (Class II) RPS certificates.
- Awarded the following major contracts in FY14 to date: Harbor and Outfall Monitoring; DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; Webster Avenue Pipe Replacement Design; Hatchery Pipeline and Hydroelectric Design: Pilot Program for Organic Digestion at DITP; Security Guard Services, and Dam Safety Consulting Services.
- Advertised or received bids/proposals/statements for the following: Rehabilitation of Anaerobic digesters at Clinton Treatment Plant; Section 111 Southern Extra High Redundancy Pipeline Design; DITP HVAC Replacement Design; Financial Advisor Services; Dam EAP Planning; and DITP Valve and Piping Replacement.
- Continued to work with DITP, Field Operations and utility companies to establish energy conservation programs at DITP and FOD facilities, using the Green Communities Act, the utilities' municipal programs, and other programs.
- Received proposals and supported DITP in award of pilot program contract for co-digestion of organic waste.
- Continued development of an electronic procurement bidding process for construction contracting based upon Lawson Strategic Sourcing, by developing the terms of use and the contract templates.
- Processed 4,892 purchase orders in Q1 and Q2 of FY14 for a total of \$23,042,456.
- FY14, Q1 and Q2: processed 130 procurements with a value of over \$25,000, including competitive bids, State blanket contracts, critical need and sole source requests.
- Developed and implemented a Debit Card program for the purchase of non-logo employee clothing and footwear.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2014; including 40 vehicles procured through the use of a "Reverse Auction" format. The vehicles came in under budget allowing the procurement of seven more vehicles for FY14.
- Processed nine competitive bids in a compressed time frame for materials to be used in the Co-Digestion pilot project for a total of over \$450,000.
- Purchased 173,000 gallons of ultra-low-sulfur, #2 diesel fuel for the Deer Island Thermal/Power Plant at a cost of \$3.02/gallon, lower than the FY14 budget price of \$3.50/gallon.
- Processed and awarded three year janitorial contracts each for the Deer Island, Chelsea, and Southboro facilities.
- Explored use of national cooperative contracts by joining the following cooperatives: MA Higher Education Consortium (MHEC), US Communities, National Inter-Government Procurement Alliance (IPA), National Joint Powers Alliance (NJPA), in order to leverage better item pricing.

- Initiated regular meetings with Deer Island, Chelsea, and MIS staff to foster better communication between MWRA departments and the Purchasing Unit
- Continued to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles, and bio-fuels.
- Continued work with Operations on a Quality of Materials Sub-Committee. The subcommittee's goal is to examine a number of similar inventory items to determine if what is currently being stocked in inventory is the appropriate quality to adequately perform the intended function. The sub-committee is comprised of Purchasing, Materials Management and Operations staff.
- Set up an online vehicle and equipment auction process and brought in \$71,000 in revenue in Q1 and Q2 of FY14.
- Recycled 12.85 tons of paper, 186.35 tons of scrap metal (includes stainless steel and aluminum) and 2,980 pounds of brass and copper, generating \$51,616 in revenues.

**Budget Highlights:**

- The FY15 Proposed Budget is \$3.8 million, an increase of \$47,000 or 1.3% as compared with the FY14 Budget.
- \$3.6 million for **Wages and Salaries**, an increase of \$36,000 or 1.0% as compared with the FY14 Budget mainly due to projected cost of living adjustment increases. The funding supports 45 positions, one less position than funded in FY14.
- \$99,000 for **Other Materials**, an increase of \$15,000 or 17.1% as compared with the FY14 Budget. This line item mainly supports centralized office supply purchases.
- \$57,000 for **Other Services**, a decrease of \$8,000 or 12.3% as compared with the FY14 Budget. This funding supports Advertising and Printing/Duplicating for contract documents and specifications. Advertising was below historical trends because a number of projects were rescheduled for later years.

**REAL PROPERTY and ENVIRONMENTAL MANAGEMENT**

FY15 Proposed Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY12 Actual	FY13 Actual	FY14 Budget	FY15 Proposed	Change FY14 to PFY15	
WAGES & SALARIES	\$ 460,569	\$ 419,225	\$ 426,071	\$ 435,572	\$ 9,501	2.2%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	1,234	36,900	8,000	3,000	(5,000)	-62.5%
PROFESSIONAL SERVICES	-	11,546	-	-	-	-
OTHER MATERIALS	835	797	1,150	1,150	-	0.0%
OTHER SERVICES	130,074	292,101	276,496	326,496	50,000	18.1%
<b>TOTAL</b>	<b>\$ 592,712</b>	<b>\$ 760,569</b>	<b>\$ 711,717</b>	<b>\$ 766,218</b>	<b>\$ 54,501</b>	<b>7.7%</b>

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participates in site selection and negotiates acquisitions or easements. In addition, staff has developed and is maintaining the Real Property database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manages environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, air emission permit negotiations, and preparation and submittal of quarterly/annual monitoring reports.

**FY15 Goals:**

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects as well as monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

**FY15 Initiatives:**

- Monitor progress of upcoming underground storage tank regulation amendments.
- Coordinate implementation of boiler and emergency generator air emissions regulation amendments including monitoring, maintenance, pollution control retrofits, and recordkeeping requirements.

**FY14 Mid-Year Accomplishments:**

- Provided ongoing real estate services, including appraisal and negotiation, on projects such as the Fore River Railroad track relocation project, Charlestown Navy Yard lease, Chelsea lease, NStar Lease, and the sale of land adjacent to Chelsea Headworks.
- Provided real estate services (appraisal, negotiation, plan and legislation review) on surplus of Fox Point (Dorchester).

- Managed nine (9) permit agreements (six at Turkey Hill and three at Walnut Hill). Coordinated with Operations for approval of the equipment changes and improving the invoicing system for maintenance reimbursements. Total revenue for the nine agreements is \$520,000 of which MWRA and the host community each receive half. Renegotiated three of nine permit agreements which due for renewal.
- Managed fee assessment for long-term 8M permits on MWRA fee controlled land. 8M fees for these agreements total approximately \$50,000 per year. Also provided assistance to Operations on short-term 8M permit agreements in which fees are assessed.
- Staff acquired easements and negotiated licenses and extensions to support projects. Currently acquiring: easement from Department of Capital Asset Management (DCAM) for Ware Disinfection Facility; easements from 65+ property owners for Section 36, New W11C, and Shaft 9A in Arlington and Medford; easement swaps for Carroll Water Treatment Plant (CWTP) security entrance renovations in Marlboro; and easement to support Alewife Brook Conduit renovations.
- Provided real estate support services including deed research and coordination with Planning's Geographic Information System (GIS) group and Law to develop/improve comprehensive property maps for the Cochituate, Sudbury, Weston, and Wachusett Aqueducts, to support projects such as the aqueduct trail initiative. Provide real estate research for a comprehensive facility database in conjunction with GIS. Provided daily assistance in concert with Law and GIS to ongoing inquiries regarding MWRA real estate rights and ownership.
- Continued with remediation and assessment of oil contamination at the Fore River Staging Area (FRSA) facility.
- Continued with the assessment of the oil contamination resulting from the February 2010 spill at the Cottage Farm Combined Sewer Overflow (CSO) facility.
- Provided technical support for the assessment and abatement design for PCBs at the Cottage Farm CSO Facility and Remote Headworks facilities in conjunction with on-going design of facility upgrades. Completed pilot testing to evaluate the effectiveness of various abatement and encapsulation techniques for PCB contamination at Chelsea Creek Headworks.
- Coordinated with design consultant for the assessment and demolition design for PCBs, lead paint and asbestos at the abandoned Westborough State Hospital Pump Station located on the grounds of the Carroll water Treatment Plant.
- Continued to provide technical and regulatory coordination of the fuel tank maintenance contract. Completed fuel tank piping system upgrades at one facility, upgrade of gasoline vapor recovery systems to meet new DEP requirements at four facilities, and general monitoring system repair and upgrades at other facilities. Coordinated with Supervisory Control and Data Acquisition (SCADA) support staff to provide real-time fuel tank system monitoring at six water pump stations for the Water Operations Control Center (OCC). Continued with the new MassDEP-required monthly inspection requirement for all underground fuel storage tank systems.
- Coordinated with TRAC and Western Water Operations for periodic sampling and monthly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the individual NPDES Permit at the Carroll Water Treatment Plant.

- In response to the installation of a new electrical transformer completed a new draft Spill Prevention, Control, and Countermeasure (SPCC) Plan for the Intermediate Pump Station in Weymouth. Completed an update to the Spill Prevention, Control, and Countermeasure (SPCC) Plan for the MWRA Cottage Farm CSO Facility in response to the recently completed fuel system upgrade project.
- Continued with MassDEP-required periodic groundwater monitoring around the former wastewater holding tank at Clinton.
- Continued to coordinate the periodic sampling requirements and quarterly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for Hydroelectric General permits at the Cosgrove Intake Facility and Oakdale Power Station.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater as well as geotechnical issues on various design and construction projects, including:
  - Stoneham Low Service Covered Storage,
  - Remote Headworks Rehabilitation,
  - Northern Intermediate Redundancy project,
  - Section 36 Watertown-Waltham Connection,
  - Cottage Farm Oil fuel system upgrade project,
  - Alewife Brook Pump Station facility upgrades,
  - MWR003 Gate, Siphon and Floatables Control project
  - Belchertown Hatchery Pipeline
  - Southern Extra High Pipeline
  - Sudbury Aqueduct Connection Alternatives
  - WASM3 Rehabilitation
  - Nut Island Electrical Duct Bank
  - Delauri Security Upgrades
- Continued to work with EPA and Operations staff on implementing diesel engine emission controls for Cottage Farm, Prison Point, and CWTP. Coordinated installation of retrofit emissions controls for the new Loring Road emergency generator. Continued to work with Operations staff to implement new maintenance and recordkeeping requirements for emergency generators. Completed air emissions testing at the Deer Island East Odor Control Facility.
- Provided technical and environmental regulatory support for upgrades at the Ware Disinfection Facility including a new potable water supply for the facility, a new onsite septic system, a new industrial waste water holding tank, and a new wastewater dry well. Submitted self-certification documentation to DEP for the new industrial wastewater holding tank. Submitted application and received DEP approval for the construction of the new onsite septic system.
- Submitted application for Certificate of Compliance to the Cambridge Conservation Commission for completion of site restoration work following the February 2010 oil spill at Cottage Farm CSO facility.
- Represented MWRA in the Massachusetts Geological Survey annual meeting of the State Map Advisory Committee to assist the State Geologist with prioritize geological mapping activities in the next calendar year.

**Budget Highlights:**

- The FY15 Proposed Budget is \$766,000, an increase of \$55,000 or 7.7%, as compared to the FY14 Budget.
- \$436,000 for **Wages and Salaries**, an increase of \$10,000 or 2.2%, as compared to the FY14 Budget mainly for projected contractual increases. The budget supports four positions.
- \$3,000 for **Training and Meetings**, a decrease of \$5,000 or 62.5% as compared to the FY14 Budget. The decrease is due to a one-time operator training program conducted in FY14.
- \$326,000 for **Other Services**, an increase of \$50,000 or 18.1%, as compared to the FY14 Budget. The increase is due to the increased costs for the underground storage tank project based on projected usage.



## Appendices



## APPENDIX A

### DIRECT EXPENSE BUDGET LINE ITEM DESCRIPTIONS

#### **Introduction**

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

**Wages and Salaries** - This line item includes funds for regular pay, shift differential, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

**Overtime** - This line item includes funds for overtime related to operations, maintenance, emergencies, and training.

**Fringe Benefits** - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

**Workers' Compensation** - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

**Chemicals** - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

**Utilities** - This line item includes funds for electricity, diesel fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

**Maintenance** - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

**Training and Meetings** - This line item covers the costs of staff training, meetings, and professional seminars.

**Professional Services** - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

**Other Materials** - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

**Other Services** - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – V present summaries of the MWRA's budgets with a detailed description of program budgets and highlights within each divisional section.

**APPENDIX B**

**BUDGET PROCESS AND TIMETABLE**

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintains an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

<b>MONTH</b>	<b>ACTIVITY</b>
September	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA’s interactive budgeting system.
December	After the divisions return their budget requests, the Rates and Budget Department consolidates the authority-wide budgets, develops briefing materials for senior management, and identifies major budget issues.
January	The Executive Director determines proposed funding levels required to meet operational and financial objectives. Staff may seek appropriate policy direction from the Board.
February	MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board’s comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.



## APPENDIX C

### **MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES**

**(Revised August 2003 to incorporate changes to capital budget section of Management  
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

#### ASSESSMENT POLICIES AND PROCEDURES

##### **Basis of MWRA Assessments**

MWRA is required by its Enabling Act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

##### **Costs Recovered**

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

##### **Sources of Current Revenue**

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

## **Coverage Requirements**

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

## **Budget Surpluses**

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years and such, to provide rate relief for our communities. With Board approval, surplus funds can also be used for targeted defeasance in future years and/or to reduce future liabilities, as part of a multi-year rate strategy. MWRA consults with the Advisory Board regarding the yearly use of these funds.

## **Budgeting and Assessment Objectives**

MWRA follows conservative budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

## **Allocation of Costs and Revenue to Systems**

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

## **Allocation of Rate Revenue Requirements to User Assessments**

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- Operations and Maintenance (O&M) costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One-quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

## **Schedule and Procedure for Adoption of Assessments**

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which affect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

### **Review and Dispute Resolution Process**

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year, MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local official on record with MWRA as responsible for water or sewer services in the city, town, or



district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

### **Water and Sewer Assessment Payment Schedule**

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

### **Interest Charge on Delinquent Payments**

For payments received after a payment due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

## **Retail Rates**

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

## CAPITALIZATION POLICY

It is the policy of the MWRA that capitalization of expenditures conforms to generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

Expenditures for tangible assets are included in the Capital Improvement Program and Budget if the expected cost of the individual asset or capital project is \$100,000 or more and if the expected useful life is more than one year. Expenditures for intangible assets are capitalized if the expected cost is \$100,000 or more and if the expected benefit period is three years or more. Annually recurring costs and expenditures for maintenance of assets are not capitalized, even though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.

## RESERVES FUNDED FROM CURRENT REVENUE

### **Operating Reserve**

The Operating Reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

### **Insurance Reserve**

The Insurance Reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. The current funding level of \$14.0 million has been determined to be acceptable and reasonable based on a FY11 Insurance Reserve Fund review performed by an outside insurance consultant who estimated the required fund level in the range of \$12 to \$16 million. The next Insurance Reserve Fund review is expected to be finalized in February 2014.

### **Renewal and Replacement Reserve**

The Renewal and Replacement Reserve has been established to pay the costs of emergency repairs or capital improvements to the system when funds are not available in either the Construction Fund or the Operating Fund. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied, its estimated cost, and estimated completion date. It must also certify that such expenditures are reasonably required for the continued operation of the systems, or for maintenance of revenues, or that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. The Renewal and Replacement Reserve Fund requirement is presently established at \$35 million. The adequacy of the funding requirements for the Operating Reserve Fund and the Replacement Reserve Fund have been confirmed by the Consulting Engineer in its most recent triennial report dated October 2011, prepared and delivered in accordance with the General Resolution. The next Triennial Report is scheduled for October 2014.

## CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

### **A. Budget Allocations**

#### **Budget Contingency Holdbacks**

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

#### **Monthly Allocation of the Annual Current Expense Budget**

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

### **B. Budget Variance Monitoring and Analysis**

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

#### **Variance Analysis**

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepares forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

### **C. Budget Amendments**

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration, Finance, & Audit Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

## **CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES**

### **General Guidelines**

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

### **Capital Budget Contingency**

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

### **Capital Budget Monitoring and Reporting**

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

### **Capital Budget Spending Cap**

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board established the third five-year cap for the FY14-18 period at its June 2013 meeting.

### **Expenditures in Excess of the Spending Cap**

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.





**APPENDIX D**

**MWRA Planning Estimates FY2015 to FY2024**

<u>COMBINED UTILITIES</u>	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024
<b>EXPENSES</b>										
Direct Expenses	\$218,221	\$224,533	\$230,768	\$237,195	\$243,799	\$250,333	\$257,122	\$263,641	\$270,831	\$278,217
Indirect Expenses	47,765	47,943	49,141	51,582	53,070	54,574	56,209	59,035	55,264	57,095
Capital Financing (before offsets)	<u>418,605</u>	<u>442,647</u>	<u>475,550</u>	<u>500,650</u>	<u>514,275</u>	<u>569,759</u>	<u>569,588</u>	<u>601,097</u>	<u>556,463</u>	<u>533,795</u>
Sub-Total Expenses	\$684,592	\$715,123	\$755,459	\$789,427	\$811,144	\$874,666	\$882,919	\$923,774	\$882,558	\$869,107
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	(1,300)	(2,441)	(5,783)	(1,312)	(204)	(9,813)	0	(12,000)	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$683,292	\$712,682	\$749,677	\$788,115	\$810,940	\$864,853	\$882,919	\$911,774	\$882,558	\$869,107
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$14,451	\$14,917	\$15,247	\$15,651	\$15,931	\$16,241	\$16,513	\$16,838	\$16,649	\$16,817
Interest Income	9,810	9,099	8,231	10,447	12,941	13,250	13,620	13,804	13,946	14,074
Rate Stabilization	<u>7,862</u>	<u>9,559</u>	<u>6,217</u>	<u>10,688</u>	<u>0</u>	<u>2,187</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$32,122	\$33,575	\$29,695	\$36,785	\$28,872	\$31,678	\$30,133	\$30,642	\$30,595	\$30,890
Total Revenue	\$651,169	\$679,107	\$719,981	\$751,330	\$782,068	\$833,175	\$852,786	\$881,132	\$851,963	\$838,217
Rate Revenue Increase	3.6%	4.3%	6.0%	4.4%	4.1%	6.5%	2.4%	3.3%	-3.3%	-1.6%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$1,011	\$1,063	\$1,120	\$1,176	\$1,229	\$1,295	\$1,351	\$1,412	\$1,446	\$1,480
Based on water use of 90k gpy (weighted)	\$1,491	\$1,568	\$1,652	\$1,735	\$1,813	\$1,910	\$1,994	\$2,083	\$2,133	\$2,184
<b>WASTEWATER UTILITY</b>										
<b>EXPENSES</b>										
Direct Expenses	\$149,216	\$153,455	\$157,749	\$162,184	\$166,717	\$171,143	\$175,763	\$180,099	\$185,036	\$190,110
Indirect Expenses	14,735	14,058	14,464	15,077	15,659	16,235	16,907	17,543	18,321	19,058
Capital Financing (before offsets)	<u>284,507</u>	<u>292,383</u>	<u>322,533</u>	<u>324,139</u>	<u>343,940</u>	<u>382,090</u>	<u>375,248</u>	<u>382,682</u>	<u>329,547</u>	<u>314,282</u>
Sub-Total Wastewater Expenses	\$448,458	\$459,896	\$494,746	\$501,400	\$526,316	\$569,468	\$567,918	\$580,325	\$532,904	\$523,449
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	(5,783)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$448,458	\$459,896	\$488,963	\$501,400	\$526,316	\$569,468	\$567,918	\$580,325	\$532,904	\$523,449
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$5,253	\$5,350	\$5,467	\$5,575	\$5,696	\$5,837	\$5,947	\$6,074	\$6,158	\$6,278
Interest Income	6,204	5,545	4,664	5,934	7,449	7,785	8,059	8,155	8,150	8,032
Rate Stabilization	803	0	1,140	0	0	0	0	0	0	0
Prior Year Utility Surplus/Deficit Transfer	<u>(4,175)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$8,086	\$10,895	\$11,271	\$11,509	\$13,145	\$13,622	\$14,006	\$14,229	\$14,308	\$14,310
Wastewater Rate Revenue	\$440,372	\$449,001	\$477,692	\$489,892	\$513,171	\$555,846	\$553,912	\$566,096	\$518,596	\$509,139
Rate Revenue Increase	3.5%	2.0%	6.4%	2.6%	4.8%	8.3%	-0.3%	2.2%	-8.4%	-1.8%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$602	\$625	\$660	\$687	\$720	\$765	\$788	\$819	\$821	\$844
Based on water use of 90k gpy (weighted)	\$888	\$922	\$973	\$1,013	\$1,063	\$1,129	\$1,163	\$1,209	\$1,211	\$1,245
<b>WATER UTILITY</b>										
<b>EXPENSES</b>										
Direct Expenses	\$69,005	\$71,078	\$73,019	\$75,011	\$77,082	\$79,191	\$81,359	\$83,543	\$85,795	\$88,108
Indirect Expenses	33,031	33,885	34,677	36,505	37,411	38,339	39,302	41,491	36,943	38,037
Capital Financing (before offsets)	<u>134,098</u>	<u>150,264</u>	<u>153,018</u>	<u>176,511</u>	<u>170,334</u>	<u>187,669</u>	<u>194,340</u>	<u>218,415</u>	<u>226,916</u>	<u>219,514</u>
Sub-Total Water Expenses	\$236,134	\$255,227	\$260,714	\$288,027	\$284,827	\$305,198	\$315,001	\$343,449	\$349,654	\$345,658
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	(1,300)	(2,441)	0	(1,312)	(204)	(9,813)	0	(12,000)	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$234,834	\$252,786	\$260,714	\$286,715	\$284,623	\$295,385	\$315,001	\$331,449	\$349,654	\$345,658
<b>REVENUE &amp; INCOME</b>										
Non-Member and Other Revenue	\$9,198	\$9,566	\$9,780	\$10,076	\$10,236	\$10,404	\$10,566	\$10,764	\$10,491	\$10,539
Interest Income	3,605	3,554	3,568	4,513	5,491	5,465	5,561	5,649	5,796	6,041
Rate Stabilization	7,058	9,559	5,077	10,688	0	2,187	0	0	0	0
Prior Year Utility Surplus/Deficit Transfer	<u>4,175</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$24,037	\$22,679	\$18,425	\$25,277	\$15,727	\$18,056	\$16,126	\$16,413	\$16,287	\$16,580
Water Rate Revenue	\$210,797	\$230,106	\$242,289	\$261,438	\$268,896	\$277,330	\$298,875	\$315,036	\$333,367	\$329,078
Rate Revenue Increase	3.7%	9.2%	5.3%	7.9%	2.9%	3.1%	7.8%	5.4%	5.8%	-1.3%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$409	\$438	\$460	\$490	\$509	\$530	\$563	\$593	\$625	\$636
Based on water use of 90k gpy (weighted)	\$603	\$646	\$679	\$722	\$751	\$781	\$831	\$874	\$922	\$939

\*\* Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the 2013 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.



## APPENDIX E

### GLOSSARY OF FINANCIAL AND OPERATING TERMS

**8M permit:** Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

**Accrued Costs:** Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

**Activated Sludge:** The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

**Advanced Waste Treatment:** Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

**Advisory Board:** The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

**Aerobic:** In the presence of free oxygen.

**Anaerobic:** Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of free oxygen.

**AOOC:** Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

**ARRA:** American Recovery and Reinvestment Act of 2009 – principal forgiveness loans distributed based on the Department of Environmental Protection's Intended Use Plan.

**Ash:** The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

**Bacteria:** One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens, or helpful and perform a variety of biological treatment processes.

**BDOC:** Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

**BGD:** Billion gallons per day.

**Biofilm:** Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

**Blow-off valves:** Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

**BOD:** Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

**Board of Directors:** The 11-member governing board of MWRA.

**Bond Resolution:** A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

**Boston Harbor Project:** An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

**Business Systems Plan (BSP):** The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

**BWSC:** Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

**CADD:** Computer aided drafting and design.

**Capital Improvement Program (CIP):** A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

**Capital Investment:** Development of a facility or other asset that adds to the long-term value of an organization.

**Carroll Water Treatment Plant (CWTP):** Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant and UV as a secondary disinfectant beginning in 2014.

**CDF:** Cosgrove Disinfection Facility

**Cathodic Protection:** A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals

while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

**Centrifuge:** A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

**CFM:** Cubic Feet per Minute - A measure of the quantity of a material flowing through a pipe.

**Chloramination:** The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

**Chloramine:** A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

**Chlorination:** The process of adding chlorine to drinking water to inactivate pathogens.

**Chlorine:** A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

**Clarifiers:** Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

**Clean Water Act:** A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

**Cleaning and Lining:** Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

**CMMS (Computerized Maintenance Management System):** *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long-term maintenance strategy to ensure proper maintenance and replacement of plant assets.

**Co-Digestion Process:** Introduction of non-wastewater derived organic waste material into the wastewater anaerobic digestion process. Co-digestion could potentially increase digester gas production which would be utilized for heating and electricity generation at Deer Island.

**Coliform bacteria:** A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

**Comminutor** - A machine or process that pulverizes and reduces solids to minute particles.

**Commonwealth Debt Service Assistance (DSA):** Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

**Community Obligation and Revenue Enhancement (CORE) Fund:** A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

**Composting:** The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

**Corrosion Control:** Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, other metals, or form hydrogen sulfide. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates or oxidizers.

**Coverage Requirement:** Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

**CP (Construction Package):** Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will group areas of work into individual construction contracts.

**Cross-Connection:** A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

**Cryogenic oxygen plant:** MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

**Cryptosporidium:** A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. Cryptosporidia exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

**CSO:** Combined Sewer Overflow – An overflow point and the discharged flow from a combined sewer system intended to provide hydraulic relief to avoid system flooding and backups during large wet weather events. During large rainstorms, systems can become overloaded, with the excess discharged directly into surface waters. The discharged flow and the discharge location are called CSOs. In the metropolitan Boston area there are approximately 47 active, permitted CSOs that currently discharge into rivers or Boston Harbor.

**CSO Facilities:** MWRA has six facilities that intercept the flow from CSO pipes. Four of these facilities provide treatment and two provide storage prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

**CT:** Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

**CTG (Combustion Turbine Generator):** CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

**Current Expense Budget:** A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

**C-Value:** The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

**DAF:** Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

**DBP:** Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

**D/DBP Stage 1:** Disinfectants/Disinfection By-products, Stage 1 Rule - Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

**D/DBP Stage 2:** Disinfectants/Disinfection By-products Stage 2 Rule - The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

**Debt Service:** In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

**DEP:** Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

**Department:** A sub-unit of an MWRA division.

**Department of Conservation and Recreation (DCR):** Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

**De-watering:** The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

**Diffusers:** A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, which disperses treated wastewater over a large area. Technically, the diffusers are the "sprinkler heads" mounted on top of the riser shafts that lead from the outfall tunnel and disperse wastewater into Massachusetts Bay.

**Digesters:** Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

**Direct Program Expenses:** Costs directly associated with providing services or performing activities.

**Disinfection, Primary:** The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

**Disinfection, Residual:** The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

**Dissolved Oxygen (DO):** A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

**Division:** A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

**DLS (Department of Laboratory Services):** Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

**DMR (Discharge Monitoring Report):** Monthly reports that are submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

**E.coli:** A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

**Effluent:** Treated wastewater discharged from a treatment plant.

**EIR:** Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.



**EIS:** Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

**Enabling Act:** Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

**ENF:** Environmental Notification Form - The first step in the MEPA process.

**EOC:** Emergency Operations Center

**EOEA:** Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environmental agencies.

**EPA:** Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

**ESWTR:** Enhanced Surface Water Treatment Rule - A federal rule that is promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: further tightens the standards for the operation of filtration plants and adds requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

**Enterococcus:** A pathogen indicator, similar to fecal coliform, that is used in the Massachusetts Water Quality Standards for marine waters, consistent with the Federal Clean Water Act requirements, which indicates potential contamination from human or animal waste.

**Eutrophication:** Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

**Expenditures:** Payments for goods and services received.

**Expenses:** Costs associated with the operating activities of a period, including expenditures and accrued costs.

**Facility Information System (FIS):** The management information system at the Deer Island Treatment Plant.

**Fecal coliform bacteria:** A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

**Filtration:** A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

**Fiscal Year:** The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

**Flash coat:** A light coat of shotcrete used to cover minor blemishes on a concrete surface.

**FOD (Field Operations Department):** Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

**Force Main:** A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

**FRSA (Fore River Staging Area):** The site of the Sludge Pelletization Plant.

**Giardia:** A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

**Goal:** A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

**Global Positioning System (GPS):** Also known as an Automatic Vehicle Location system (GPS/AVL), this tool provides real-time transmission alerts utilizing a cell phone/satellite communication system and a web-based mapping system to track vehicles and operator-driven mobile equipment in MWRA's service area. The system allows MWRA to respond more quickly to emergencies, enhance driver and vehicle safety, reduce fuel costs, track mileage electronically, monitor unauthorized vehicle usage, and improve efficiency.

**Graphitization:** A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

**Grit:** Sand-like materials that quickly settle out of wastewater.

**Groundwater:** A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

**HAA:** Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

**Harbor Electric Energy Company (HEEC):** A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

**Head House:** A structure containing the control gates to a conduit such as a sewer pipeline.

**Headworks:** A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

**Heavy Metals:** Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

**HOM (Harbor and Outfall Monitoring):** A comprehensive program to provide environmental data that helps to predict and measure the effect of Deer Island outfall discharge on the marine ecosystem.

**Incentives and Other Charges:** A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

**Indirect Expenses:** Costs not directly associated with providing services or performing activities.

**Infiltration/Inflow (I/I):** The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

**Influent:** The flow of water that enters the wastewater treatment process.

**Insurance Reserve:** A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

**Interceptors:** The large pipes that convey wastewater from collection systems to treatment plants.

**Investment Income:** Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

**ISO - NE (Independent System Operator of New England):** Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island and Carroll Water Treatment Plant remove themselves from the grid. Both plants participate in load response programs offered by ISO-NE which pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. MWRA constantly evaluates the options and participates in the most advantageous program.

**Labor Costs:** Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

**Land Application:** The use of wastewater treatment residuals on land for agricultural benefits.

**Landfilling:** The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

**LCR:** Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

**Leachate:** Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

**Limnology:** The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

**LIMS:** Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

**LOX (Liquid Oxygen):** Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

**Mapping Protocols:** Sets of specifications defining the content and format of data to be collected.

**MCL:** Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

**MCLG:** Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Massachusetts Environmental Policy Act (MEPA) Unit:** A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

**Methane:** A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

**MGD:** Million gallons per day.

**MIS:** Management Information Systems

**Mission:** A description of the fundamental purposes and major activities of an operating unit or program.

**Mitigation:** Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

**Molybdenum (Mo):** A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism. The concentration of molybdenum in sludge products is strictly regulated.

**NACWA (Nation Association of Clean Water Agencies):** NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

**NEFCo:** New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

**National Pollutant Discharge Elimination System (NPDES) Permit:** A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

**NHS (Northern High Service):** Project that involves a series of water system pipeline improvements in the MWRA's Northern High Service Area.

**Nitrification:** An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

**OCC:** Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

**OEP (Office of Emergency Preparedness):** The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

**OMS (Operations Management Systems):** OMS correlates PICS data with laboratory analysis to track and analyze DITP's process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

**Operating Reserve:** A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of its annual operating expenses.

**Organic Matter:** Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

**Other User Charges:** Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

**Outfall:** The pipe or structure where effluent is discharged into receiving waters.

**Ozonation:** The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. The Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

**Ozone:** A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

**Pathogens:** Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

**Payments in Lieu of Taxes (PILOT):** Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and

Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

**Penalty Revenue:** Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

**Performance Measure:** An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

**Performance Objective:** A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

**PICS (Process Instrumentation and Control System):** PICS provides real-time operations data from systems throughout Deer Island (including system status, flow, etc.).

**Plume:** The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

**Preliminary Treatment:** The process of removing large solid objects, sticks, gravel, and grit from wastewater.

**Pretreatment:** The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

**Primacy:** Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

**Primary Treatment:** A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

**Program:** An organized group of activities and the resources to carry them out aimed at achieving one or more related objectives.

**Rate Revenue:** Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

**Rate Stabilization Reserve:** A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

**RCM (Reliability Centered Maintenance):** A maintenance strategy adopted at Deer Island in FY00 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

**Relief Sewer:** A sewer built to carry flows in excess of the capacity of an existing sewer.

**RGGI:** The Regional Greenhouse Gas Initiative is a mandatory, market-based program in the United States to reduce greenhouse gas emissions. The program involves selling emission allowances through auctions and investing the proceeds in demand-side management and clean energy technology projects.

**Remote Headworks:** The initial structures and devices of a treatment plant set apart by some distance from the plant site.

**Renewal and Replacement Reserve:** A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

**Residuals:** The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

**Revenue Bonds:** Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

**RPS (Renewable Portfolio Standards):** State policies which mandate a state to generate a percent of its electricity from renewable resources. Qualified renewable generation facilities for the MWRA include: the Steam Turbine Generator (STG) and a variety of Hydroelectric, Wind and Solar units. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

**Safe Yield Model:** The equation used to determine the maximum dependable draft that can be made continuously on a water supply source during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

**SAMS:** Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

**Sanitary Sewers:** In a separate system, pipes that carry only domestic wastewater.

**SCADA:** Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

**SCBA:** Self-contained breathing apparatus.

**Screenings:** Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.



**Scum:** Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

**SDWA:** Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

**Secondary Treatment:** Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

**Sedimentation Tanks:** Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

**Seeding:** The initial filling of sludge into digesters.

**Sensitive user:** A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

**Septic Tanks:** Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

**Shotcrete:** Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

**Siphon:** A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

**Slip Lining:** Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

**Sludge:** Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

**Sodium Hypochlorite (NaOCl):** A liquid form of chlorine that MWRA uses in the disinfection and/or odor processes at the Deer Island Treatment Plant, various other Wastewater facilities, and the Carroll Water Treatment Plant (CWTP).

**Storm Sewers:** Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

**Surcharging:** Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

**Suspended Solids:** The particulate matter contained in wastewater.

**SWTR:** Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

**Telemetry:** Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

**TCR:** Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

**TOC:** Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

**Transition:** A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

**TTHM:** Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

**TRAC:** Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

**TSS (Total Suspended Solids):** A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

**Ultraviolet (UV) Treatment:** Ultraviolet light is an effective method of disinfection in drinking and wastewater applications. UV light damages the DNA of microbes, and is particularly effective against cryptosporidium. Federal regulations require two primary disinfectants for unfiltered water systems. The Carroll Water Treatment Plant added UV as a second disinfectant (in addition to ozonation) in February 2014 and will add at the Quabbin Disinfection Facility in Ware by October 2014.

**United States Geological Survey (USGS):** The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

**Vector Jet Truck:** A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

**VMM:** Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA’s vehicles and heavy equipment.

**WASM (Weston Aqueduct Supply Mains):** Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry potable water to MWRA’s service area. When complete, they will transmit about one-third of the water to MWRA’s service area and the City tunnel will carry the remaining two-thirds.

**Wastewater:** The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment. Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, and/or agricultural and can encompass a wide range of potential contaminants and concentrations.

**Wastewater Treatment Plant (WTP):** A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

**Watershed Reimbursement:** An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

**Wholesale Water and Sewer Services:** Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

**WOCC:** Western Operations Control Center, located at the Carroll Water Treatment Plant.



**APPENDIX F**  
**FY15 Proposed Current Expense Budget - Capital Financing Detail (as of 12/31/2013)**

	<b>Outstanding as of 12/31/2013</b>	<b>Total</b>	<b>Sewer</b>	<b>Water</b>
<b>SRF <sup>1</sup></b>				
Unrefunded	\$ 3,780,000	6,117	6,117	
1999E Sewer		388,800	388,800	-
1999E Water	\$ 11,424,376	577,349	-	577,349
1999F	\$ 248,850,000	19,270,818	19,270,818	-
2000E Sewer		2,825,835	2,825,835	-
2000E Water	\$ 58,014,466	575,490	-	575,490
2001C Water	\$ 2,330,000	250,007	-	250,007
2001D Sewer		386,254	386,254	-
2001D Water	\$ 4,066,225	81,889	-	81,889
2002H Sewer		3,138,324	3,138,324	-
2002H Water	\$ 85,465,000	1,546,234	-	1,546,234
2002I Sewer		103,291	103,291	-
2002I Water	\$ 1,904,511	1,534	-	1,534
2003A	\$ 806,375	70,111	-	70,111
2003B	\$ 2,106,223	224,729	-	224,729
2003C Sewer		1,362,127	1,362,127	-
2003C Water	\$ 36,949,071	969,617	-	969,617
2004C Sewer		540,161	540,161	-
2004C Water	\$ 9,239,831	90,281	-	90,281
2004D Sewer		2,702,638	2,702,638	-
2004D Water	\$ 54,134,935	644,215	-	644,215
2005C Sewer		418,901	418,901	-
2005C Water	\$ 6,143,563	69,271	-	69,271
2005D Sewer		3,385,857	3,385,857	-
2005D Water	\$ 60,782,940	803,774	-	803,774
2005E Sewer		24,961	24,961	-
2005E Water	\$ 321,917	5,479	-	5,479
2006C Sewer		487,670	487,670	-
2006D Sewer		3,735,194	3,735,194	-
2006D Water	\$ 70,866,163	1,611,774	-	1,611,774
2006E Sewer		22,883	22,883	-
2006E Water	\$ 376,359	10,281	-	10,281
2007C Sewer		308,828	308,828	-
2007C Water	\$ 5,111,845	186,670	-	186,670
2007D Sewer		1,149,882	1,149,882	-
2007E Sewer		3,293,526	3,293,526	-
2007E Water	\$ 64,600,629	1,262,313	-	1,262,313
2008G Sewer		404,622	404,622	-
2008G Water	\$ 5,287,714	82,285	-	82,285
2009C Sewer		5,752,343	5,752,343	-
2009C Water	\$ 96,670,032	1,888,913	-	1,888,913
2009D Sewer		648,990	648,990	-
2009D Water	\$ 10,407,857	85,792	-	85,792
2010C Sewer				
2010C Water	\$ 33,035,745			
2010D Sewer		1,425,263	1,425,263	-
2010D Water	\$ 44,139,395	1,439,551	-	1,439,551
2011A Sewer		383,880	383,880	-
2011A Water	\$ 9,826,049	370,274	-	370,274
2012C Sewer		524,166	524,166	-
2012C Water	\$ 10,941,017	254,659	-	254,659
2012D Sewer		2,856,382	2,856,382	-
2012D Water	\$ 50,470,093	532,246	-	532,246
2013B Sewer		2,213,651	2,213,651	-
2013B Water	\$ 38,738,294	533,550	-	533,550
Pool 18 Sewer		2,692,833	2,692,833	-
Pool 18 Water		1,012,067	-	1,012,067
Pool 19 Sewer		1,939,875	1,939,875	-
Pool 19 Water		886,208	-	886,208
<b>Total SRF Debt</b>	<b>\$ 1,053,508,531</b>	<b>\$ 78,460,635</b>	<b>\$ 62,394,072</b>	<b>\$ 16,066,562</b>

**APPENDIX F**  
**FY15 Proposed Current Expense Budget - Capital Financing Detail (as of 12/31/2013)**

	<b>Outstanding as of 12/31/2013</b>	<b>Total</b>	<b>Sewer</b>	<b>Water</b>
<b>MWRA Senior Debt</b>				
1993C New/Refunding	\$ 19,625,000	3,693,270	3,231,611	461,659
2002J New	\$ 296,300,000	15,416,475	13,874,828	1,541,648
2002J Refunding	\$ 1,000,000	50,000	25,000	25,000
2004B Refunding	\$ 48,950,000	2,447,500	2,141,563	305,938
2005A Refunding	\$ 344,830,000	44,147,525	19,866,386	24,281,139
2005B Refunding	\$ 80,290,000	4,014,500	1,338,033	2,676,467
2006A New	\$ 149,990,000	6,876,300	-	6,876,300
2006B Refunding	\$ 216,935,000	10,354,800	7,766,100	2,588,700
2007A New	\$ 198,000,000	8,933,188	1,518,642	7,414,546
2007B Refunding	\$ 647,950,000	34,017,375	28,574,595	5,442,780
2009A New	\$ 76,445,000	3,822,250	2,866,688	955,563
2009B Refunding	\$ 271,030,000	13,321,794	9,591,692	3,730,102
2010A New	\$ 97,740,000	4,722,400	3,305,680	1,416,720
2010B Refunding	\$ 183,570,000	17,643,500	10,233,230	7,410,270
2011B New	\$ 142,245,000	9,650,925	6,755,648	2,895,278
2011C Refunding	\$ 327,160,000	16,064,275	6,265,067	9,799,208
2012A New	\$ 142,190,000	6,855,375	3,427,688	3,427,688
2012B Refunding	\$ 86,775,000	4,240,325	890,468	3,349,857
2013A Refunding	\$ 170,635,000	7,551,650	4,228,924	3,322,726
FY14 New Money (2014)		6,504,750	3,252,375	3,252,375
FY15 New Money (2015)		1,800,000	900,000	900,000
Potential Defeasance/Restructuring		(791,550)	(469,715)	(321,835)
<b>Total Senior</b>	<b>\$ 3,501,660,000</b>	<b>\$ 221,336,626</b>	<b>\$ 129,584,501</b>	<b>\$ 91,752,126</b>
<b>Subordinate Debt</b>				
1999B	\$ 58,600,000	1,904,500	1,142,700	761,800
2002C Refunding	\$ 35,120,000	1,141,400	380,429	760,971
2008A Refunding	\$ 334,345,000	64,517,197	56,775,134	7,742,064
2008C Refunding	\$ 113,840,000	9,313,946	8,941,388	372,558
2008E Refunding	\$ 133,640,000	8,152,040	7,499,877	652,163
2008F Refunding	\$ 164,755,000	5,354,538	481,908	4,872,629
2012E Refunding	\$ 62,830,000	2,041,975	428,815	1,613,160
2012F Refunding	\$ 60,300,000	1,959,750	411,548	1,548,203
2012G Refunding	\$ 55,260,000	5,300,759	5,088,729	212,030
Potential Defeasanc/Restructuring				
<b>Total Subordinate Debt</b>	<b>\$ 1,018,690,000</b>	<b>\$ 99,686,105</b>	<b>\$ 81,150,527</b>	<b>\$ 18,535,578</b>
<b>Total SRF &amp; MWRA Debt Service<sup>2</sup></b>	<b>\$ 5,573,858,531</b>	<b>\$ 399,483,366</b>	<b>\$ 273,129,101</b>	<b>\$ 126,354,266</b>
Water Pipeline Commercial Paper	\$ 144,000,000	4,148,453	-	4,148,453
Current Revenue/Capital <sup>3</sup>		10,200,000	9,282,000	918,000
Capital Lease		3,217,060	1,960,865	1,256,195
CORE Fund Deposit		1,556,532	135,332	1,421,200
<b>Sub-Total</b>	<b>\$ 144,000,000</b>	<b>\$ 19,122,045</b>	<b>\$ 11,378,197</b>	<b>\$ 7,743,848</b>
<b>Total Capital Financing (before Debt Service Offsets)</b>	<b>\$ 5,717,858,531</b>	<b>\$ 418,605,411</b>	<b>\$ 284,507,298</b>	<b>\$ 134,098,114</b>
<b>Debt Service Offsets</b>				
Bond Redemption		(1,300,000)	-	(1,300,000)
<b>Total Capital Financing</b>	<b>\$ 5,717,858,531</b>	<b>\$ 417,305,411</b>	<b>\$ 284,507,298</b>	<b>\$ 132,798,114</b>

<sup>1</sup> SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

<sup>2</sup> Numbers may not add due to rounding.

<sup>3</sup> Current Revenue/Capital is revenue used to fund ongoing capital projects.

